REPORT

Chapter 1.0 Program Overview

2024 Milne Port Marine Environmental Effects Monitoring Program (MEEMP) and Non-Indigenous Species/Aquatic Invasive Species (NIS/AIS) Monitoring Program

Submitted to:

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Executive Summary

Baffinland Iron Mines Corporation (Baffinland) owns and operates an open pit iron ore mine (the Project) located in the Qikiqtani Region of North Baffin Island, Nunavut, in accordance with Terms and Conditions of its Project Certificate (PC) No. 005. Ore is transported to market during the open water season by chartered vessels that receive the ore in Milne Port, located at the head of Milne Inlet at the western end of Eclipse Sound. Shipping commenced in 2015 and is expected to continue for the life of the Project (20+ years).

As a part of regulatory commitments, Baffinland has developed and implemented a multi-disciplinary Marine Environmental Effects Monitoring Program (MEEMP). The MEEMP is designed to evaluate potential Project-related effects on the marine environment as predicted in the Final Environmental Impact Statement (FEIS) and FEIS addenda (Baffinland 2012, 2013). The MEEMP includes monitoring of marine water and sediment quality, marine benthic invertebrates, marine vegetation, and fish and fish habitat. The sampling design is generally based on the Metal Mining Environmental Effects Monitoring (EEM) technical guidelines (Environment Canada 2012) and includes statistical approaches for detecting potential Project-induced impacts on the marine environment. The Non-Indigenous Species/Aquatic Invasive Species (NIS/AIS) Monitoring Program is an integral component of the MEEMP and is designed to address the potential risks of species introductions to the marine environment from ship ballast water and hull biofouling.

This report presents the results of the MEEMP and NIS/AIS monitoring programs conducted in Milne Inlet during the 2024 open-water season, the tenth consecutive year of monitoring.

MARINE WATER QUALITY (CHAPTER 2.0)

The marine water quality component of the MEEMP involves monitoring of water quality in the Milne Inlet receiving environment to confirm that site discharges are in compliance with requirements outlined in the Type A Water License and satisfy Project Certificate (PC) Conditions No. 76, 83(a), 87, 89 and 99(a). Water quality samples are collected at four sampling stations in Milne Inlet downstream from the primary discharge point (MP-05), as well as four sampling stations downstream from a second discharge point (MP-06) at Milne Port. These receiving environment stations are distributed in a radial design up to approximately 250 m from each discharge point to monitor for potential changes in water quality due to site drainage and operational discharges, including iron ore stockpile run-off.

In 2024, reported analytical results for water quality parameters (i.e., major ions, nutrients, metals, hydrocarbons, and polycyclic aromatic hydrocarbons [PAHs]) were generally within ranges observed during previous MEEMP sampling programs (2015 to 2023). In fact, a substantial proportion of parameters analyzed in the water samples from Milne Inlet were not detected at all in downstream sampling stations. All parameters were below relevant water quality guidelines (i.e., Canadian Council of Ministers of the Environment Water Quality Guidelines; CCME WQGs).

Collectively, measured concentrations of metals, nutrients, hydrocarbons were either not detected or were present at low concentrations, such that adverse impacts to the biota in the Milne Inlet receiving environment are unlikely to occur. Increased iron deposition in the marine environment as a result of Project activities is of primary interest to local Inuit. Given that CCME marine WQGs for iron have not been developed, 2024 data were compared to iron

data collected during previous MEEMP programs (2017 to 2023) to evaluate whether increases in production at Milne Port have led to associated increases in iron concentrations. Mean and maximum total iron concentrations in marine water samples collected in 2024 were below the mean and maximum concentrations measured in previous years in the receiving environments of the MP-05 and MP-06 site discharges. Dissolved iron concentrations were below detection limits in each of the samples collected in 2024, meaning the majority of detectable iron concentrations were driven by the particulate form and less bioavailable for uptake by aquatic biota.

Results of the trend analysis for MP-05 indicated that there was no significant temporal trend in total iron concentration. In general, 2024 MP-05 values were lower than 2023 and most previous years. Year-to-year changes in iron concentrations ranged from a reduction of 25% in concentrations between 2023 and 2024 to an increase of 12% between 2020 and 2021. Concentrations recorded in 2023 and 2024 were similar to those measured in 2019 and 2020.

Results of the trend analysis for MP-06 indicated that there was a significant difference in total iron concentrations between previous years. Total iron concentrations at the MP-06 ENE station were significantly higher (600% increase) in 2024 when compared to 2023, however, this was due to the very low values recorded in 2023 and the high variability of data in other years. No significant temporal differences were found for the remaining three stations, and 2024 values were similar to or lower than most previous years.

In the 2024 sampling program, mean total copper concentrations were 3.0 µg/L, roughly 2.5-times greater than those measured in 2023 (1.2 µg/L), while lower than those measured in 2022 (3.5 µg/L). In 2024, total copper concentrations were within the historical range of measured concentrations. Maximum total copper concentrations (20.1 µg/L) were measured at the MP-06 Source location on July 30, 2024. This maximum was roughly 4.5-times greater than the 2023 maximum of 4.5 µg/L, however dissolved copper concentrations from the same sample were 20-times lower with concentrations of 1.04 µg/L, meaning the majority of detectable copper concentrations were driven by the particulate form which is less bioavailable for uptake by aquatic biota. In addition, dissolved copper concentrations were below detection limits in 31 of the 40 samples collected.

Results of the water quality assessment above were screened against the TARP criteria. The ‘Low Risk’ threshold was not triggered in 2024 because the 30-day mean for each water quality indicator was less than 75% of the applicable CCME water quality guideline for the protection of aquatic life.

Overall, results indicate that, to date, water discharged from site into the marine receiving environment meets the requirements of the Type A Water License and that water quality parameter concentrations remain below thresholds of harm for marine biota. Moving forward, continued compliance monitoring for water quality is recommended.

MARINE SEDIMENT QUALITY (CHAPTER 3.0)

Sediment sampling in Milne Inlet was conducted to satisfy PC Conditions No. 83(a) and 99(a). In 2024, a reduced sediment quality and benthic infauna sampling program was conducted. The full-scale joint radial transect benthic and sediment sampling program, consisting of 60 stations monitored on a three-year cycle, was conducted in 2023, and will be implemented in 2026.

The 2024 sediment (and benthic infauna) program focused on the eight Capesize sampling stations (SW-1 through SW-4, SE18-1, SNW-1, SCV-1 and SCV-2) established in 2023. The Capesize sampling program was implemented to monitor for scouring effects on sediment and benthic infauna for three years after the initial use of large (Baby Cape and Capesize) ore carriers in fall 2023. Capesize vessel effects monitoring commenced in August 2023 (August 4-19, 2023) with the intention of documenting existing conditions for sediment quality prior to the use of the larger ore carriers. The first Capesize vessel arrived in Milne Port on August 29, 2023 after completion of the 2023 sampling program. In total, there were five Capesize (including Baby Cape) voyages to Milne Port in 2023. In 2024, representing Year 1 of the monitoring program, analyses of the physical and chemical composition of sediments were conducted on samples collected from the eight Capesize sampling stations for particle size, metals, and organic parameters. Concentrations of sediment quality indicators were determined to be lower than available sediment quality guidelines and concentrations of organic parameters were largely not detected in the sediments sampled.

As demonstrated through statistical analyses, there was a significant reduction in the proportion of fine sediments at the Capesize stations between 2023 and 2024. The variability of the physical composition of sediments among stations along with the time series data for percent fines show that although most stations showed some level of decrease in fines between 2023 and 2024, for some stations the actual decrease in percent fines is minimal and reflects a continuing trend of low fines content evident since before 2024 which represent existing conditions for this 2024 assessment. Based on the Capesize vessel Ship Wake and Propeller Wash Assessment (WSP 2023), this study predicted a scouring impact at five of the eight Capesize sampling stations. For the three stations not predicted to be impacted by scouring by the modelling study, a station offshore from the Ore Dock in deeper water (SCV-1) did not appear to show signs of scouring in 2024; whereas, nearshore stations in shallower water along the Western Transect towards Phillips Creek either remained low in fines (SW-3) or showed a decrease in fines in 2024 relative to 2023 (SW-4). It is however recognised that these nearshore stations could be subject to the ongoing influence of natural coastal processes and variations in morphology, and/or sediment transport to the inlet via Phillips Creek to some extent, as well as the potential influence of propeller wash from vessel traffic. Moreover, it is important to note, that regardless of potential propeller wash influence, benthic infauna densities at SW-3 and SW-4 were not significantly different in 2024 and 2023, and both stations continue to support diverse benthic invertebrate communities.

In 2024, concentrations of metals in sediments sampled at the Capesize stations were below applicable CCME guidelines for the protection of aquatic life (CCME 1999) and NOAA sediment benchmarks (Buchman 2008). As found in previous MEEMP years, PAHs and hydrocarbons were not detected in sediments sampled from Milne Port in 2024. Iron concentrations in Milne Inlet have been flagged by Inuit to be of concern due to the potential for increased deposition of iron ore in the form of dust or in runoff from storage stockpiles. Marine sediment guidelines for iron are not currently available and, as such, the Capesize station sediment data for iron were evaluated using a similar statistical approach used to evaluate the proportion of fine sediments at the eight Capesize stations, consistent with previous MEEMP reports. There was an overall statistically significant decrease in iron concentration at the Capesize vessel stations between 2024 and existing conditions in 2023 prior to the use of Capesize vessels. As observed for the fines content of the sediments, while the 2024 MEEMP sampling found that spatial trends in the sediment iron continued to differ between the stations, more subtle temporal trends were evident over time.

The 2024 results of the Capesize sediment quality assessment were screened against the TARP criteria (Table 3-2). The ‘Low Risk’ threshold was not triggered for sediment quality for the 2024 MEEMP focussed on comparing the Year 1, 2024 Capesize sampling station results with the existing 2023 results for these stations.

Monitoring results for 2024 remained within original FEIS predictions and subsequent addenda, which forecasted no significant residual effects on sediment quality. Given that continued use of larger ore carriers (Baby Cape and Capesize) at Milne Port is expected, Baffinland has committed to a frequency of annual sampling of the Capesize monitoring stations for a minimum of three years following the initial use of larger ore carriers, to identify Project-related effects due to the change in vessel types. In order to gain a better understanding of potential scouring effects outside of the predicted zone of influence for the Capesize vessels versus influence from natural coastal processes, a consideration would be to extend the 2025 Capesize vessel sampling program along the West Transect to include SW-5 and SW-6, for a total of ten stations for sediment quality and benthic infauna sampling.

Overall, results indicate that, to date, marine sediment quality results remain within FEIS predictions and subsequent addenda, which forecasted no significant residual effects on sediment quality but indicated the potential for minor localized sediment disturbance associated with propeller wash, which is expected to stabilize over time. The TARP 'Low Risk' threshold was not triggered and the Capesize sampling program will continue to monitor for scouring effects on sediment and benthic infauna.

BENTHIC INFAUNA (CHAPTER 4.0)

Benthic infauna sampling in Milne Inlet was conducted in 2024 to satisfy PC Conditions No. 83(a) and 99(a). In 2024, a reduced sediment quality and benthic infauna sampling program was conducted. The full-scale joint radial transect benthic and sediment sampling program, consisting of 60 stations monitored on a three-year cycle, was conducted in 2023, and will be implemented in 2026.

The 2024 MEEMP benthic infauna (and sediment) program focused on the eight Capesize sampling stations (SW-1 through SW-4, SE18-1, SNW-1, SCV-1 and SCV-2) established in 2023. The Capesize sampling program was implemented to monitor for scouring effects on sediment and benthic infauna for three years after the initial use of large (Baby Cape and Capesize) ore carriers in fall 2023. Capesize vessel effects monitoring commenced in August 2023 (August 4-19, 2023) with the intention of documenting existing conditions for sediment quality prior to the use of the larger ore carriers. The first Capesize vessel arrived in Milne Port on August 29, 2023, following completion of the 2023 sampling program. In total, there were five Capesize (including Baby Cape) voyages to Milne Port in 2023.

The 2024 benthic sampling program was conducted to assess potential changes in marine sediment and benthic infaunal community indices associated with potential impacts of Baby Cape and Capesize ore carriers utilizing the Ore Dock. The FEIS predictions forecasted no significant residual effects on sediment quality but indicated the potential for minor localized sediment disturbance associated with propeller wash, which is expected to stabilize over time, as well as the potential for minor localized increases in nutrients, metal, or hydrocarbon concentrations that could impact benthic invertebrate communities. Subsequent to the FEIS, WSP conducted a Ship Wake and Propeller Wash Assessment to address possible project effects on the marine physical environment related to shipping activities associated with increased large vessel traffic (WSP 2023). This assessment predicted some scour to occur over most of the berthing area for Capesize vessels with predicted depths of scour ranging from 5 cm over the broader berthing area to 50 cm in a more localized area adjacent to the Ore dock. The 2024 sediment quality assessment evaluated sediment quality down to 5 cm sediment depth consistent with the MEEMP and sampling at the Capesize stations in 2023. This sediment depth is also the most relevant to the assessment of benthic infauna communities.

In 2024, representing Year 1 of the monitoring program, benthic infaunal community samples were collected from the eight Capesize sampling stations processed in the field, and preserved for laboratory analysis. Infaunal organisms were subsequently identified to the lowest practical taxonomic level and enumerated by experienced marine benthic taxonomists at Biologica Environmental Services Ltd. (taxonomic laboratory). As observed in previous years, benthic infauna communities at the Cape Size stations were mainly dominated by polychaetes. A higher proportion of malacostracans, predominantly amphipods and cumaceans, were found at some West Transect stations, whereas bivalves represented a higher proportion at stations not along this transect. Statistical analysis was focused on four key benthic infauna endpoints – invertebrate density, richness, diversity, and evenness – consistent with previous MEEMP years.

The 2024 benthic infauna results remained within predictions of the FEIS and subsequent addenda, which forecasted the potential for localized sediment disturbance associated with propeller wash and temporary effects on benthic infaunal community indicators. In 2024 the eight Capesize stations continued to support diverse benthic invertebrate communities. Overall density and richness were not significantly different between Year 1 (2024) and under existing conditions in 2023; however, the benthic infaunal community continued to show variability between stations in 2024 with observed decreases in density and richness from 2023 to 2024 at stations in close proximity to the Ore Dock. These observations are partly supported by changes in the proportion of fines content in the area over time as well as natural variability seen within benthic communities. Scouring effects were previously observed in 2020 at station SW-2 due to propeller wash from smaller ore carriers and tugs. Subsequent monitoring years indicated that the benthic infaunal community at that station later recovered, and that the effects were temporary and localized.

Results of the 2024 benthic infauna assessment did not trigger the TARP ‘Low Risk’ threshold given that benthic performance indicators were not significantly different in Year 1 (2024) compared to existing conditions in 2023 and any visual decreases in benthic performance indicators appeared to be within Port-related effects predicted by FEIS and subsequent addenda.

Given that there will be continued use of larger ore carriers (Baby Cape and Capesize) at Milne Port, Baffinland has committed to a frequency of annual sampling of the Capesize monitoring stations for a minimum of three years following the initial use of larger ore carriers to identify Project-related effects due to the change in vessel types. As noted for sediment quality in Chapter 3.0, in order to gain a better understanding of potential scouring effects outside of the predicted zone of influence for the Capesize vessels versus influence from natural coastal processes, a consideration would be to extend the 2025 Capesize Vessel sampling program along the West Transect to include SW-5 and SW-6, for a total of ten stations for sediment quality and benthic infauna sampling.

Overall, results indicate that, to date, marine benthic infauna results remain within FEIS predictions and subsequent addenda, which forecasted no significant residual effects on sediment quality but indicated the potential for minor localized sediment disturbance associated with propeller wash, which is expected to stabilize over time. **The TARP ‘Low Risk’ threshold was not triggered and the Capesize sampling program will continue to monitor for scouring effects on sediment and benthic infauna.**

SUBSTRATE, MACROALGAE, AND BENTHIC EPIFAUNA (CHAPTER 5.0)

Sampling of substrate, macroalgae, and benthic epifauna fulfills PC Condition No. 99(a) and (c) and is relevant to PC Conditions No. 76, 83(a), 84 and 87. To evaluate potential project-related effects on substrate, macroalgae, and benthic epifauna, standardized underwater visual census methods were employed by SCUBA-based scientific divers to survey macroalgae, invertebrate, and fish species and to record habitat type within a series of survey quadrats permanently installed on the seafloor in both an exposure area and a reference area in Milne Port. Specimens were opportunistically collected and sent to an accredited taxonomy laboratory (Biologica Environmental Services Ltd.) for taxonomic identification. Indicators included percent cover (%) of substrate type, benthic macroalgae, and sessile benthic epifauna, density (counts) for motile epifauna, and diversity indices (i.e., taxa richness and Simpson's Diversity Index [SDI]) for macroalgae and epifauna.

In 2024, the benthic environment of the exposure and reference areas mainly consisted of soft substrate, primarily silt and sand, consistent with previous years. Interannual differences were observed in the proportion of the bottom covered by soft substrate but pairwise comparisons found no significant differences between 2024 and any other year. There was no significant difference in soft substrate coverage between the exposure and reference area in 2024. Similar macroalgae and epifaunal taxa composition were observed in 2024 as in previous years (2021-2023). Community indicators (percent cover or density, taxa richness, and SDI) were variable among quadrats, but were not significantly different between the exposure and reference areas in 2024 for any community indicator, and the interaction of area x year was significant for density of motile epifauna. Depth or proportion of soft substrate in the quadrat were significant covariables for several epifaunal indicators but were not significant for macroalgae indicators. The effect of year was significant for macroalgae and sessile epifauna indicators. Seven of the eight significant differences (out of a total 54 comparisons of 2024 against other years, 46 of which showed no significant difference) indicated higher values of community indicators in 2024 compared to years 2021 or 2022 and only one indicated a lower value in 2024 compared to 2021. There were no significant differences between 2023 and 2024 in community indicators. Percent cover of macroalgae was 69% higher in the exposure area and 91% higher in the reference area in 2024 compared to 2021, and it was 59% higher in the reference area in 2024 compared to 2022. Macroalgal taxa richness was significantly higher in both the exposure (51%) and reference (67%) areas in 2024 compared to 2022. Macroalgae taxa richness was 51% higher in 2024 in the exposure area compared to 2022 but 2024 did not significantly differ from other years. Macroalgae SDI was not significantly different in the exposure area in 2024 compared to other years but was 78% higher in 2024 compared to 2022 in the reference area. Percent cover and taxa richness of sessile epifauna in the exposure and reference areas were no different in 2024 than in other years. Sessile SDI was 69% higher in the exposure area in 2024 compared to 2022 but no different in any year in the reference area. Motile epifauna density decreased by 149% in the exposure area, comparing 2021 and 2024. Motile epifauna density was 63% higher in the reference area in 2024 compared to 2022. There were no significant differences detected for year, area, or the year x area interaction for motile epifauna taxa richness or SDI.

As was done in previous years, effect size was explored using a power analysis to detect Project-related change based on levels of observed variability among quadrats. Large effect sizes (>50%) were required to attain sufficient statistical power for most analyses of soft substrate, epifauna and macroalgae. Given the low statistical power to detect effect sizes that may be of biological relevance, going forward, it is recommended that conclusions are not made based on strict adherence to statistical significance. Instead, effect size, uncertainty, and statistical significance and power should be considered together before ruling out spatial and temporal changes in benthic infauna.

Overall, macroalgae and benthic epifaunal community assemblages were comparable between exposure and reference areas. Interannual variations in some indicators were likely driven by regional environmental factors. Monitoring efforts to date revealed no evidence of spatial or temporal trends that might be associated with Project-induced effects. Monitoring of macroalgae and benthic epifauna assemblages is recommended to continue, using the same sampling and statistical design, with a modification to include the tops of the metal crossbars and outer frame in analyses due to increased observations of habitat formation and colonization of these hard surfaces within many quadrats in 2024. This modification will affect the ability to compare results interannually but will not affect between-area comparisons. Two quadrats closest to Phillips Creek were not located in 2024 and are presumed lost. It is recommended that these quadrats not be replaced due to dynamic nature of the bottom in that area. Further, it is recommended to increase collections of unknown taxa, when possible, for analyses and identification. Where possible, such taxa should be collected outside but adjacent to the permanent quadrats to minimize impacts on measures of community composition within the quadrats.

Overall, while noting the statistical limitations of this component (i.e., high variability leading to generally low statistical power), the 2024 survey results indicated that Project activities to date have not resulted in adverse effects on macroalgae and epifaunal communities in Milne Port.

MARINE FISH COMMUNITY (CHAPTER 6.0)

To satisfy PC Conditions No. 99(b)(ii), 99(c), 113, and 114, sampling was conducted to assess the relative abundance of Arctic Char (*Salvelinus alpinus*) and other fish species in the Milne Port area. Multiple sampling methodologies (e.g., angling-jigging, gill nets, hoop nets, and trawling) were used to target different fish species and habitat types. Collected fish were identified to the lowest practicable taxonomic level, typically to species level, before being released. Fish not identified to species level in the field were retained for subsequent identification by an accredited taxonomic laboratory. Fish community composition (diversity), abundance, and catch per unit effort (CPUE) were compared among years and CPUE was compared between two fishing areas (FAs) defined for Milne Port: Direct Project Footprint (DPF) and Indirect Project Footprint (IPF), delineated by habitat features and their proximity to existing port infrastructure and operational activities.

A total of 633 fish belonging to ten known taxa were recorded in Milne Port from 88 fishing events (efforts) using a combination of methods during the 2024 open water survey season. Similar to previous sampling years, Arctic Char, Fourhorn Sculpin (*Myoxocephalus quadricornis*), and Shorthorn Sculpin (*Myoxocephalus scorpius*) were the most abundant species. Other fish captured included Pacific Cod (*Gadus macrocephalus*), Arctic Staghorn Sculpin (*Gymnocanthus tricuspis*), Ribbed Sculpin (*Triglops pingelii*), Arctic Alligatorfish (*Aspidophoroides olrikii*), Spatulate Sculpin (*Icelus spatulata*), an Atlantic Spiny Lumpsucker (*Eumicrotremus spinosus*), unidentified sculpins (Family Cottidae) and unidentified juvenile cod (Gadidae indet.). This was the second consecutive year where the Atlantic Spiny Lumpsucker was recorded as part of the fish community monitoring program, following its first capture in 2023.

The composition and abundance of the fish community captured in 2024 were generally comparable to those of the 2020-2023 monitoring programs. Species richness remained consistent with previous years at ten known taxa (comparable to 10-12 taxa in 2020-2023), and abundance, uncorrected for fishing effort, was higher than in 2023 (633 individuals compared to 422 in 2023) and within the abundance range of years 2020-2022 (482-852 individuals).

Results of statistical analyses of the CPUE (i.e., catch rates corrected for fishing effort) supported the conclusion that existing mitigation measures were functioning as intended and that current Project activities were not resulting in adverse effects on the local marine fish communities in Milne Port. No reduction in fish abundance was associated with activities in the DPF; fish CPUE in the DPF was generally higher or no different than the CPUE in the IPF. Analyses of total CPUE (all fish species combined) in 2024 showed higher CPUE in the DPF compared to the IPF for gill net and hoop net catches, consistent with trends observed in previous years. Total CPUE for angling-jigging in 2024 showed a reverse trend, with higher catch in the IPF compared to the DPF, differing from previous years where catch in the DPF was higher than in the IPF.

For Arctic Char, there was a significant interaction effect between year and area for gill nets, the only fishing method that could be analyzed. CPUEs observed in both FAs were similar from 2020 to 2022; however, in 2023, CPUE of Arctic Char in the IPF was significantly lower than in the DPF, dropping to the lowest CPUE for Arctic Char recorded in the time series. In 2024, Arctic Char CPUE in the IPF was significantly higher than in 2023, more closely resembling 2020-2022 CPUE values while 2024 CPUE values in the DPF remained generally consistent with 2020, 2022, and 2023. Gill net CPUE of Arctic Char was higher in the IPF compared to the DPF in 2024.

For Fourhorn Sculpin, area comparisons of CPUE were conducted for angling-jigging, gill net, and hoop net fishing methods and, for all methods, CPUE was higher in the DPF compared to the IPF. This may relate to the use of constructed rocky reef habitat around the project's Ore and Freight docks by Fourhorn Sculpin. Additionally, Fourhorn Sculpin gill net CPUE within the IPF was significantly lower in 2024 compared to years 2020-2022 but was higher than values seen in 2023.

Modifications to the monitoring program for the fish community over the past several years have focused on improving the statistical power of the monitoring. A key strategy in 2024 included the elimination of fishing methods that yielded relatively lower catches (i.e., Fukui traps and angling-trolling), allowing effort to be concentrated on more effective methods. As in previous years, angling-jigging, gill nets, and hoop nets were effective fishing methods in 2024. Gill nets were particularly effective for capturing Arctic Char, which were rarely caught by other methods. In most years, the majority of Fourhorn Sculpin were caught via angling-jigging and gill nets. Hoop nets were retained as a fishing method to replace Fukui traps after a four-year trial indicated higher capture rates for hoop nets. Trawling, while often not resulting in a high CPUE unless a school of fish were encountered, often captured taxa not sampled by the other methods used in this program. Effort numbers of methods in 2024 were comparable to or surpassed 2023 effort numbers, with only moderate increases in effort numbers in 2024 due to increased time spent outside of Milne Port by the fish sampling team in support of the MEEMP fish health sampling program (see Chapter 7.0 Fish Health and Tissue Chemistry) and weather delays.

Measures recommended for the 2025 MEEMP sampling program include the following:

- The sampling methods utilized in 2024 (angling-jigging, gill nets, hoop nets, and trawl) provide comparable results for detection of fish diversity as observed in previous years (when additional fishing methods were included in the program) and are recommended for use going forward.
- As power analyses continued to indicate the statistical power of the performed analyses was relatively low, due to the high variability of fish catch, consideration may be given to assessing differences between FAs using effect sizes rather than a strict adherence to statistical significance.

Overall, fishing methods were deemed effective in characterizing the marine fish community in terms of species presence and relative abundance. The program continues to improve its methodology with regard to efficiencies of capture, characterization of the fish community, and statistical power, and the delineation of FAs and standardization of measures of fishing effort time series that commenced in 2020 will continue to allow for ongoing assessments of interannual or interarea change in relative fish abundance and distribution at Milne Port.

FISH HEALTH AND TISSUE CHEMISTRY (CHAPTER 7.0)

To satisfy PC Conditions No. 76, 83 (a), 99 (a), 113, and 114, sampling was conducted to assess fish health and tissue chemistry in Milne Port. Fish health endpoints were assessed in two species, Fourhorn Sculpin (*Myoxocephalus quadricornis*), a marine fish, and wrinkled rock-borer (*Hiatella arctica*), a marine bivalve. The two species were collected from Milne Port and two reference areas, Koluktoo Bay and Tugaat River Estuary. Koluktoo Bay served as the reference area for Fourhorn Sculpin and Tugaat River Estuary served as the reference area for *H. arctica.* Arctic Char (*Salvelinus alpinus*) was also included in the fish health and tissue chemistry monitoring program but was collected opportunistically from Milne Port only. *Hiatella arctica* was collected from benthic infauna samples. Tissue chemistry was assessed in Fourhorn Sculpin, *H. arctica*, and Arctic Char. Fish health assessments included endpoints for survival, growth, condition, and reproduction, and considered species separately. Statistical comparisons of fish health endpoints were completed between Milne Port and the reference areas for Fourhorn Sculpin and *H. arctica* using data collected in 2024, as well as recent sampling years (i.e., 2020, 2021, 2022, 2023, and 2024) for all species.

In total, 40 Fourhorn Sculpin from Milne Port and 39 Fourhorn Sculpin from the Koluktoo Bay reference area were processed in 2024. Differences in fish health endpoints were observed for female and male Fourhorn Sculpin between Milne Port and Koluktoo Bay. Females from Milne Port had significantly greater size-at-age, exceeding the critical effect size (CES), but lower relative total weight, compared to female fish from Koluktoo Bay. For male fish, size-at-age was significantly greater and relative liver weight was significantly lower in Milne Port compared to Koluktoo Bay. Differences in size-at-age and relative liver weight exceeded the CES for male fish, and exceeded the TARP ‘Low Risk’ threshold. No other TARP thresholds were exceeded. Fish health endpoints varied significantly among sampling years for both female and male Fourhorn Sculpin from Milne Port, but few consistent trends were observed. An exception was relative liver weight for female Fourhorn Sculpin from Milne Port, which appeared to be increasing consistently over time.

In 2024, 40 *H. arctica* were collected from Milne Port, and 23 *H. arctica* were collected from Tugaat River Estuary reference area. Growth and condition were lower in Milne Port when compared to the reference area. Observed differences in whole animal wet weight, relative total weight, and relative shell weight were considered to exceed the TARP ‘Low Risk’ threshold as a conservative assessment in the absence of CES values. When evaluating fish health endpoints for *H. arctica* within Milne Port among sampling years, differences were observed for length-frequency, whole animal wet weight, relative total weight, and mantle somatic index. No consistent trends in differences were observed for any endpoint, suggesting interannual variability as the main contributor to observed differences.

A total of 13 incidental mortalities of Arctic Char were analyzed in 2024. Age ranged from 7 to 16 in 2024, which was similar to 2021, 2022, and 2023. Condition factor of Arctic Char varied among sampling years with no consistent temporal trends observed

A total of 38 tissue samples were submitted for metals analysis in 2024. This included eight Arctic Char, eight Fourhorn Sculpin, and eight *H. arctica* samples from Milne Port, and eight Fourhorn Sculpin and six *H. arctica* samples from the reference areas. Constituents of potential concern (COPCs) were identified based on the primary constituents of the Project iron ore (i.e., aluminum, magnesium, and iron), as well as metals with existing regulatory guidelines for fish tissue (i.e., mercury and selenium). Concentrations of COPCs were not different between sampling areas for Fourhorn Sculpin. For *H. arctica*, concentrations of COPCs were generally not different between sampling areas, with the exception of aluminum and selenium, which were significantly lower in samples from Milne Port compared to Tugaat River Estuary. The magnitudes of effects, 49% and 14%, respectively, were below the CES. Significant increasing trends in aluminum and iron concentrations were observed in Arctic Char tissue samples. Median concentrations of both metals exhibited appreciable interannual variability but have generally been increasing over time. For Fourhorn Sculpin, significant increasing trends were observed for aluminum. For *H. arctica*, no significant increasing trends were observed. No TARP thresholds were exceeded for Fourhorn Sculpin or *H. arctica* tissue chemistry.

Mercury and selenium concentrations in all Arctic Char and Fourhorn Sculpin samples collected in Milne Port were below Health Canada's Maximum Levels for Chemical Contaminants in Foods mercury consumption guideline of 0.5 mg/kg ww (Health Canada 2015) and the BC Ministry of Environment selenium concentration guideline of 4 mg/kg dw (BC MOE 2014), respectively. One Fourhorn Sculpin captured in the Koluktoo Bay reference area had a selenium concentration (4.20 mg/kg dw) that exceeded the BC guideline.

A total of eight Fourhorn Sculpin and eight Arctic Char samples from Milne Port were analyzed for polycyclic aromatic hydrocarbons (PAHs) in 2024; no *H. arctica* samples were analyzed for PAHs in 2024 due to limited sample volumes. Concentrations of all PAHs in Arctic Char and Fourhorn Sculpin were below reported detection limits (<0.050 mg/kg ww).

Assessments of fish health and tissue chemistry in 2024 for Fourhorn Sculpin, *H. arctica*, and Arctic Char indicated low magnitude differences in endpoints over time and among sampling areas, suggesting inherent interannual variability in endpoints. All results are within FEIS predictions, which indicated the potential for low magnitude effects on marine fish health and tissue chemistry. There was no evidence for Project-related effects beyond the magnitude of FEIS predictions on fish health or tissue chemistry in 2024.

NON-INDIGENOUS SPECIES AND AQUATIC INVASIVE SPECIES (NIS/AIS) MONITORING (CHAPTER 8.0)

This chapter presents the results of comprehensive sampling conducted in the marine environment of Milne Inlet to monitor for the presence of non-indigenous species (NIS) and aquatic invasive species (AIS), fulfilling PC Conditions No. 87, 89, and 91. The sampling program included both targeted (e.g., benthic grabs, settlement substrates, and zooplankton tows) and general (e.g., screening all species identified through MEEMP components, such as fish, benthic fauna and macroflora surveys) sampling efforts. The observed and sampled taxa were compared to a taxonomic inventory, which included the taxa previously detected in Milne Inlet and annual updates. Species composition in the region is relatively unknown and it is expected that each year this sampling program will detect taxa that were not previously recorded. Literature reviews were performed on taxa that were not part of the inventory to investigate their biogeographic range on record; in addition, these taxa were cross-referenced against both global and domestic databases of known invasive taxa. Taxa were also cross-

referenced with the Program-specific Watch List (taxa flagged for ongoing monitoring and re-assessment) comprised of taxa assessed within the Low, Moderate, or High risk categories, described below. When a detected taxon was not identifiable to species level, other 'representative species' in the taxon were investigated as proxy species, targeting those with potential to establish in the Arctic (exclusively tropical or subtropical taxa were excepted but all other taxa were considered).

Species were assigned to the following risk categories:

No risk: A species is considered to be "No Risk" if it is:

- present in the Canadian Arctic prior to Project operations (2015). A species may also be considered "No Risk" where records exist from the Canadian Arctic in areas outside the Project's area of influence, or distribution in waters adjacent to the Canadian Arctic provides high certainty that its range includes the Canadian Arctic

  AND

- not listed on AIS databases, or if listed, it is native to Canadian Arctic or the representative species is/are unlikely to establish in the Arctic (e.g., exclusively tropical/subtropical)

Low risk: A species is considered to be "Low Risk" if it is:

- not reported from the Canadian Arctic, or reported with high uncertainty, or species is not associated with shipping vectors (e.g., species presence is likely due to range expansion related to climate change)

  AND

- not listed on AIS databases, or if listed (or in the case of higher taxon identification, with one or more representative species listed on an AIS database) the representative species is/are unlikely to establish in the Arctic (e.g., tropical/subtropical), or, if listed as introduced to an area with similar conditions, the species is cryptogenic to the area of potential introduction

  AND

- not showing invasive behaviours in Milne Inlet

Moderate risk: A species is considered to be "Moderate Risk" if it is:

- not reported to be present in the Canadian Arctic, or reported with high uncertainty

  AND

- capable of using shipping vectors

  AND

- listed as an AIS in other areas, with no potentially serious behaviours reported in ecosystems similar to Milne Port

  AND

- has shown no invasive behaviours in Milne Inlet

High risk: A species is considered to be “High Risk” if it is:

- not reported to be present in the Canadian Arctic, or reported with high uncertainty

  AND

- capable of using shipping vectors

  AND

- listed as an AIS in other areas

  AND

- well-documented as having potentially serious invasive behaviours in ecosystems similar to Milne Inlet, and/or has shown invasive behaviours in Milne Inlet

Taxa placed on the Watch List include taxa that have met the criteria for Low-, Moderate- and High-risk taxa as defined above. Additionally, taxa may be placed on the Watch List as a precaution if they require more supportive data, e.g., to confirm their identity or determine population trends. Should High-risk taxa be identified that are considered potentially introduced via Project shipping activities, they would be added to the Trigger List (a list of species that “trigger” development of a Rapid Response Plan outlining responsive actions that will be species-specific and proportional to the risk). The literature review for the species is repeated annually for all Moderate and High Risk taxa on the Watch List and Trigger List, and for Low Risk Taxa in years where additional specimens are identified, to update information on the taxa. The collection data for each taxon are reviewed for indications of potential changes in population size or dispersal within Milne Port, and the status of the species on the relevant list is reevaluated. This may result in no change in status, a change in risk level, removal from the Watch List, or placement on the Trigger List.

The 2024 surveys resulted in 54 new additions to the taxonomic inventory for Milne Inlet (i.e., taxa that had not been observed in previous surveys). The majority of new taxa had records of occurrence in the Canadian Arctic or described ranges that were likely to include the Project area. However, directed literature review of newly observed taxa in 2024 resulted in five taxa being added to the Project Watch List for increased monitoring effort:

- The polychaete *Chaetozone anasima* was identified in benthic samples and flagged for review due to the lack of a range description that included the Eastern Canadian Arctic. The genus *Chaetozone* has regularly been detected in Milne Inlet since baseline studies complex but recent taxonomic publications have allowed further resolution of some species. The specimens collected in 2024 and identified as *Chaetozone anasima* may represent a refining of the previous identification, rather than a new identification for Milne Port. *Chaetozone anasima* was placed on the Watch List as Low Risk as a precautionary measure.
- The green filamentous algae *Chaetomorpha* sp. 3GWS is an undescribed taxon initially sequenced from samples collected in Maine. No further information is available for this taxon, and it was precautionarily placed on the Watch List as a Low Risk taxon.
- Molecular examination of Milne Port algae specimens indicated the presence of *Desmarestia ligulata* however, the identification was flagged as a potential laboratory contamination. No records of this species exist in the Canadian Arctic, and it is present on at least one AIS database, and therefore this species was placed on the Watch List as a Low Risk taxon as a precautionary measure.

- Sequences generated from scrapings of settlement substrates and rocks and were tentatively matched to *Antithamnion sparsum*, an Asian species that is considered NIS to Nova Scotia and does not have an Arctic range on record. Due to the method of sample collection, morphological confirmation could not be made. The lab considered these results as a potential false positive, however, *Antithamnion* cf. *sparsum* was precautionarily flagged for further review and was placed on the Watch List as a Low Risk taxon.
- A scraping from a settlement plate was a genetic match to *Polysiphonia kapraunii*, which is a recently described species from North Carolina. Genetic work reveals some uncertainty in the taxonomic designation, indicating that it forms a clade with at least one closely related species with a broader range, and may not be its own species. While the identification in 2024 was not considered a false positive, the result was flagged as uncertain due to the method being limited in distinguishing between closely related species. Due to the lack of a range description that includes Arctic waters, *Polysiphonia kapraunii* was flagged for further review and was placed on the Watch List as a Low Risk taxon as a precaution.

Additionally, NIS/AIS monitoring in 2024 collected one species that was placed on the Watch List in previous years due to uncertainties in its natural range and because it was listed in an existing AIS database (the polychaete *Paramphitrite birulai*). This species had been previously sent for independent verification with a specialist and the newly collected specimens were not submitted for additional taxonomic confirmation given the taxon had been previously confirmed. Distribution and abundance of *P. birulai* collected in 2024 were compared to previous years and there were no meaningful trends in abundance or distribution since the taxon was first observed in Milne Port that may signal the onset of invasive behaviours. No change in the status of this taxon on the Watch List was recommended. No taxa were removed from the Watch List in 2024.

Invertebrate specimens representing target taxa, including *Marenzelleria* sp., tunicates, and bryozoans collected for DNA in 2023 were sent to CCDB for sequencing. Results for *Marenzelleria* sp. collected near Phillips Creek were a match to sequences from a presumed *Spio* sp. collected from Svalbard in 2018 and from Churchill in 2008, however the phylogenetic tree placed the Milne Port specimens closer to *Marenzelleria* than to *Spio*. The taxonomic laboratory indicated this may be a result of a misidentified reference specimen in the CCDB database. The close genetic match to specimens collected in the eastern Canadian Arctic/subarctic prior to Project operations suggest that these Milne Port specimens would not represent a taxon of concern for Milne Port regardless of a confirmed identification of *Spio* sp. or *Marenzelleria* sp. The sequences of the Milne Port specimens were sent to Dr. Vasily Radashevsky from the Russian National Scientific Center of Marine Biology in Vladivostok, a global expert in Spionidae with experience in molecular identification of *Marenzelleria* in the Canadian Arctic. Dr. Radashevsky matched the 2023 sequences to *Marenzelleria wireni*, a species already confirmed by molecular means to occur in Milne Port. DNA sequencing of tunicate specimens resulted in the identification of two species: *Ascidia callosa* and *Boltenia echinata. Ascidia callosa and Boltenia echinata* have been documented in the Eastern Canadian Arctic and previously in Milne Port, including in baseline surveys

While NextGen Sequencing was able to generate sequences for five of the bryozoan specimens, results were inconclusive, reflecting limitations in the methods and with DNA identification for Arctic bryozoans. As a result, no specimens were able to be resolved further than the phylum level and the comparative taxa are not considered potential identifications for Milne Port.

The Watch List now consists of thirteen taxa and there are no species on the Trigger List.

The Baffinland NIS/AIS monitoring program represents the most comprehensive monitoring program for NIS/AIS conducted by a marine port in Canada. Approximately 1,204 taxa have been identified in Milne Inlet through monitoring to date, which includes 499 unique macroflora, zooplankton, benthic invertebrates, and fish species. The identification and risk assessment of individual taxa out of the hundreds identified in Milne Inlet indicated this surveillance program was effective and functioning as intended. The majority of these taxa have been designated as "No Risk" and are not considered to be of concern.

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2024 ᖃᖏᕐᐊᓂ ᑐᓴᒪᑦᕃᖏᓪᓗ ᑕᕆᐅᔨᑦ ᐊᓂᑎᖏᓚᓄᑦ ᐊᒃᑐᐃᓂᔪᓄᑦ ᖃᐅᔨᓴᖅᓯᓕᐊᖏᓐᓇᓂᖅ ᔪᓂᔪᑦ ᐱᓕᕆᐊᑦ (MEEMP) and ᑕᒧᓂᔪᒥᐅᑕᐅᖏᑦᑐᑦ ᐅᒪᔨᑦ (NIS) / ᑎᑭᓯᒃᑐᑦ ᐅᒪᔨᕐᓇᓱᑦ (AIS) ᖃᐅᔨᓴᖅᓯᓕᐊᖏᓐᓇᓂᖅ ᔪᓂᔪᑦ ᐱᓕᕆᐊᑦ

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360 ᐅᒃᖃᐅᓯ ᐃᓂᖏᓐ ᐊᖅᑐᑦ, ᑎᑎᕋᖃᒃ 300
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CA0026317.6821-053-R-Rev0-86000

ᐊᐃᕐᓗᓕ 24, 2025



ᐊᐅᓚᑦᑎᔨᓂᖕᓛᕐᑐᑦ ᓇᐃᓈᕐᓯᒪᔪᑦ

ᐹᕝᕙᓖᓐ ᓴᕕᒃᓴᓂᒃ ᐅᔭᕋᓐᓂᐊᖅᑏᑦ ᑯᐊᐳᕇᓴᙵ (ᐹᕝᕙᓖᓐ) ᓇᖕᒥᓂᖃᖅᑐᑦ ᐊᐅᓚᑦᑎᓪᓗᑎᒡᓗ ᐃᑎᖅᓴᓕᐊᒥᒃ ᓴᕕᒃᓴᓂᒃ ᐅᔭᕋᓐᓂᐊᕐᕕᖕᒥ (ᐱᓕᕆᐊᖅ) ᐃᓂᖃᖅᑰᓂ ᕿᑭᖅᑕᓂ ᓄᓇᕐᑯᐊᓂ ᐅᐊᖕᓇᖕᓂ ᕿᑭᖅᑖᓗᑉ, ᓄᓇᕗᒻᒥ, ᒪᓕᒃᑰᑎᒃ ᑕᐃᒎᓯᕐᓂᒃ ᒪᓕᒋᐊᓕᖕᓂᒃ ᐅᔭᕋᓐᓂᐊᕿᓐᓇᐅᑎᒥ (PC) ᓈᓴᐅᑖ 005. ᓴᕕᒃᓴᖅ ᐅᓯᔭᐅᖃᑦᑕᖅᑐᑦ ᓂᐅᕐᕈᓯᕐᕕᖕᖑᑦ ᓯᑯᖃᙱᑎᓪᓗᒍ ᓵᑕᖅᑕᐅᓯᒪᔪᑎᒍᑦ ᐅᒥᐊᕐᔪᐊᑎᒍᑦ ᐅᓯᓕᖅᑕᐅᕙᒃᑐᑦ ᓴᕕᒃᓴᓂᒃ ᕿᙵᒍᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ, ᐃᓂᖃᖅᑐᑦ ᕿᙵᖕᓕᓂ ᕿᙵᒍᐊᑕ ᐱᓇᓐᓇᔫᖕᓕᓂ ᐃᓯᐊᓂ ᑕᓯᐅᔭᐅᔭᐅᑉ. ᐅᒥᐊᕐᔪᐊᖃᖃᑦᑕᓯᒋᐊᓚᐅᖅᑐᑦ 2015-ᒥ ᐊᒻᒪᓗ ᓂᕈᐅᔭᕆᐅᓪᓗᓂ ᑲᔪᓯᓂᐊᕐᓂᖕᒍᓂᒃ ᐅᔭᕋᓐᓂᐊᕐᓂᓗᒃᑖᕆᓐᓂ (20+ ᐊᕐᕌᒍᐃᑦ).

ᐃᓚᒋᔭᐅᓪᓗᓂ ᒪᓕᒐᓕᕆᓂᕐᒧᑦ ᐱᓂᐊᕐᓂᕋᕈᑎᓂ, ᐹᕝᕙᓖᓐᑯᑦ ᐱᕝᕙᓕᐊᑎᑦᑎᓯᒪᔪᑦ ᐊᑐᓕᖅᑎᑦᑎᓯᒪᓪᓗᑎᒡᓗ ᐊᒥᓱᓚᖕᓂᒃ-ᓱᕆᐊᕈᑎᓂᒃ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᓂᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓂᒃ (MEEMP). ᑖᓐᓇ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᓂᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ (MEEMP) ᐋᖅᑭᒃᓯᒪᔪᖅ ᖃᐅᔨᓴᖃᑦᑕᕐᑯᓪᓗᒋᑦ ᐱᑕᖃᐃᓐᓇᕆᐊᓕᖕᓂᒃ ᐱᓕᕆᐊᒧᑦ-ᐊᒃᑐᐊᔪᓂᒃ ᐊᒃᑐᐃᓂᕐᓂᒃ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓂ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᑎᓪᓗᒋᑦ ᑕᐃᑲᓂ ᑲᖑᓪᓕᖅᐹᒥᑦ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐃᓂᐊᓂᐊᖅᑐᑦ ᐅᓂᒃᑳᓂ (FEIS) ᐊᒻᒪᓗ ᑲᖑᓪᓕᖅᐹᒥᑦ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐃᓂᐊᓂᐊᖅᑐᑦ ᐅᓂᒃᑳᑦ (FEIS) ᐅᐃᒍᓚᓂ (ᐹᕝᕙᓖᓐ 2012, 2013). ᑖᓐᓇ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᓂᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ (MEEMP) ᐱᖃᓯᐅᔾᔨᔪᖅ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᓂᕐᓂᕐᒥᒃ ᑕᕆᐅᑉ ᐃᒪᖓᓂᒃ ᐃᓱᕐᓂᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓂᒃ, ᑕᕆᐅᒥ ᕿᒥᕐᓗᒃᑳᕆᑦᑐᑦ ᑯᒪᕈᕋᓛᓂᒃ, ᑕᕆᐅᒥ ᐱᕈᖅᑐᓂᒃ, ᐃᖃᓗᖕᒋᓂᒃ ᐊᒻᒪᓗ ᐃᖃᓗᐃᑦ ᓇᔪᖓᕆᓐᓂᒃ. ᖃᐅᔨᓴᕋᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᖃᐅᔨᒪᔾᔪᑕᐅᔪᑦ (ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ 2012) ᐊᒻᒪᓗ ᐱᖃᓯᐅᔾᔨᓯᒪᓪᓗᓂ ᓈᓴᐅᓯᕆᔾᔪᑎᖕᓂᑦ ᐊᑐᖅᑕᐅᓇᓱᐊᖅᑐᓂᒃ ᖃᐅᔨᓴᐅᕐᑯᓪᓗᖕᒋᑦ ᐱᑕᖃᐃᓐᓇᕆᐊᓖᑦ ᐱᓕᕆᐊᒥ-ᓴᖅᑭᑕᐅᔪᑦ ᐊᒃᑐᐃᓃᑦ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ. ᑕᓖᓂᕐᒥᐅᑕᙱᑦᑐᑦ ᐆᒪᔪᕋᓛᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ/ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᓂᒃ (NIS/AIS) ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᓂᕐᓂᖅ ᐃᓚᒋᔭᐅᔪᖅ ᐃᓗᓕᖕᒋᓐᓂ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᓂᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᒥ (MEEMP) ᐊᒻᒪᓗ ᐋᖅᑭᒃᓯᒪᓪᓗᓂ ᑲᒪᒋᔭᐅᕐᑯᓪᓗᑎᑦ ᐅᓗᕆᐊᓇᑐᐃᓐᓇᕆᐊᓖᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᓴᖅᑭᓪᓗᑎᒃ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐃᒥᖕᓗᓂ ᐃᒃᑕᖅᑯᑕᐅᕙᒃᑐᒥ ᐊᒻᒪᓗ ᓯᕗᓂᐊᓂ ᓂᕈᑲᑦᑕᖅᑐᓂ.

ᑖᓐᓇ ᐅᓂᒃᑳᖅ ᓴᖅᑮᔪᖅ ᖃᐅᔨᔭᐅᔪᓂᒃ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᓂᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᒥ (MEEMP) ᐊᒻᒪᓗ ᑕᓖᓂᕐᒥᐅᑕᙱᑦᑐᑦ ᐆᒪᔪᕋᓛᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ/ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᓂᒃ (NIS/AIS) ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᓂᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖑᔪᓯᒪᔪᑦ ᕿᙵᒍᐊᓂ 2024-ᒥ ᓯᑯᖃᙱᑎᓪᓗᒍ ᓯᓚᒥ ᐱᓕᕆᓐᓇᒥ, ᖁᓕᓂᑦ ᐊᕐᕌᒍᓂ ᑲᖑᓕᕇᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᓇᖅᑎᓪᓗᒋᑦ.

ᑕᕆᐅᑉ ᐃᒪᖓ ᖃᓄᐃᑦᑑᓂᖓ (ᐃᓛᒃᑰᖅᑕᖅᑐᑦ 2.0)

ᑕᕆᐅᑉ ᐃᒪᖓ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᐃᓗᓕᖕᒋᑦ ᑕᐃᑲᓂ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᓂᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ (MEEMP) ᐱᖃᓯᐅᔾᔨᓯᒪᔪᖅ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᓂᕐᓂᕐᒥᒃ ᐃᒪᖓ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᕿᙵᒍᐊᓂ ᑯᕕᓯᕝᕕᐅᕙᒃᑐᒥ ᓇᓗᓇᐃᖅᑕᐅᕐᑯᓪᓗᑎᑦ ᑕᒪᒃᑯᐊ ᐃᓂᒥ ᑯᕕᓯᓃᑦ ᒪᓕᖕᓂᖕᒋᖕᓄᑦ ᐱᑕᖅᑲᓇᐊᓕᖕᓄᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᓂ ᖃᓄᐃᑦᑑᓂᖓ ᐃ ᐃᒥᕐᒧᑦ ᓚᐃᓴᖕᓯᒧᑦ ᐊᒻᒪᓗ ᓈᒻᒪᒃᑰᑎᒃ ᐅᔭᕋᓐᓂᐊᕿᓐᓇᐅᑎᒥ (PC) ᒪᓕᒃᑕᐅᔭᕆᐊᓖᑦ 76, 83(ᐃ), 87, 89 ᐊᒻᒪᓗ 99(ᐃ). ᐃᒪᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᖃᐅᔨᓴᕋᒃᓴᑦ ᑲᑎᑕᐅᓯᒪᔪᑦ ᑎᓴᒪᓂ ᖃᐅᔨᓴᕋᒃᓴᓕᐅᕐᕕᖕᓂ ᕿᙵᒍᐊᓂ ᑰᒐᓛᖕᓂ ᑯᕕᕝᕕᐅᓪᓗᐊᑕᖅᑐᒥ (MP-05), ᐊᒻᒪᓗᑦᑕᐅᖅ ᑎᓴᒪᓂ ᖃᐅᔨᓴᕋᒃᓴᓕᐅᕐᕕᖕᓂ ᑰᒐᓛᖕᓂ ᑲᖑᓪᓕᖅ ᑯᕕᓯᕝᕕᐅᕙᒃᑐᖅ (MP-06) ᕿᙵᒍᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ. ᑕᒪᒃᑯᐊ ᑯᕕᓯᕝᕕᐅᕙᒃᑐᑦ ᐊᕙᑎᖕᒋᓐᓂ ᖃᐅᔨᓴᕐᕖᑦ ᐃᓕᐅᖅᑲᖅᑕᐅᓯᒪᔪᑦ ᐋᖅᑭᒃᓯᒪᓪᓗᑎᒃ ᐊᖕᒪᓗᖅᑐᑎᑐᑦ ᐅᖕᓚᓯᕇᖕᓂᖅᑲᐅᖅᑰᑎᒃ 250 ᒦᑕᐸᓗᖕᓂᒃ ᐃᒻᒥᖕᓄᑦ ᑯᕕᓯᕝᕕᐅᕙᒃᑐᓂ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᓇᖅᑕᐅᕐᑯᓪᓗᖕᒋᑦ ᐊᓯᔾᔨᑐᐃᓐᓇᕆᐊᓖᑦ ᐃᒪᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓂᒃ ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᐅᔭᕋᓐᓂᐊᕐᕕᖕᒥ ᑯᕕᓯᒃᑕᕐᓂᕐᓂᑦ ᐊᒻᒪ ᐊᐅᓚᓂᕐᓂᑦ ᑯᕕᓯᓂᐅᔪᓂ, ᐱᖃᓯᐅᑎᓪᓗᒋᑦ ᓴᕕᒃᓴᓂᒃ ᑲᑎᖅᓱᐃᕝᕕᖕᒥ ᐊᐅᒃᐸᓪᓕᐊᔪᑦ.

2024-ᒥ, ᐅᖃᐅᓯᐅᓯᒪᔪᑦ ᓈᓴᐅᓯᕆᓂᕐᒥ ᖃᐅᔨᓴᐅᔪᑦ ᐃᒪᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᑭᒡᓕᐅᔪᓄᑦ (ᓱᕐᓗ ᐆᒻᒪᖅᑯᑎᖃᓗᐊᕐᓃᑦ, ᓂᕿᑦᑎᐊᕙᑦ, ᓴᕕᕋᔭᑦ, ᐅᖅᓱᐊᓗᒃᓴᓖᑦ, ᐊᒻᒪᓗ ᐅᖅᓱᐊᓗᒃᓴᓖᑦ [PAHs]) ᐃᓗᐊᓃᑦᑐᐃᓐᓇᐅᓚᐅᖅᑐᑦ ᐅᔾᔨᕆᔭᐅᓯᒪᔪᓂ ᑲᖑᓂᖕᓛᑦᑎᓐᓂ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᕐᓂᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᒥ (MEEMP) ᖃᐅᔨᓴᕋᒃᓴᓕᐅᕐᓂᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓂᑦ (2015-ᒥ 2023-ᒧᑦ). ᐃᒪᐃᖑᓂᖓ, ᐊᖏᔪᖅ ᐃᓚᖏᓐᓂ ᑭᒡᓕᐅᔪᓂ ᕿᒥᕐᕈᔭᐅᔪᑦ ᐃᒪᖅ ᖃᐅᔨᓴᕋᒃᓴᓕᐅᖅᑕᐅᓯᒪᔪᓂ ᕿᙵᒍᐊᓂ ᖃᐅᔨᓴᐅᔪᖃᓚᐅᙱᑦᑐᖅ ᐊᑕᖏᖅᑐᓂ ᑰᑐᓂ ᖃᐅᔨᓴᕋᒃᓴᓕᐅᕐᕕᐅᔪᓂ. ᑭᒡᓕᐅᔪᓗᒃᑖᑦ ᑐᙵᕕᓕᐅᖅᑐᑦ ᐊᒃᑐᐊᔪᑦ ᐃᒪᐅᑉ ᖃᓄᐃᑦᑑᓂᖏᓐᓄᑦ ᖃᐅᔨᒪᔾᔪᑕᐅᔪᑦ (ᓱᕐᓗ ᑲᓇᑕᒥ ᑲᑎᒪᔩᑦ ᒥᓂᔅᑕᐅᏗᑦ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᐃᒪᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᖃᐅᔨᒪᔾᔪᑏᑦ; CCME WQGs).

ᐃᓘᓐᓇᑎᒃ, ᐆᒃᑐᕋᖅᑕᐅᓯᒪᔪᑦ ᐱᑕᖃᕐᓂᖏᓐᓄᑦ ᓴᕕᕋᔭᑦ, ᓂᕿᑦᑎᐊᕙᑦ, ᐅᖅᓯᐊᓘᒃᓴᑦ ᖃᐅᔨᓴᐅᔪᖃᓚᐅᙱᑦᑐᖅ ᐅᕝᕙᓘᓐᓃᑦ ᐱᑕᖃᓚᐅᙱᑦᑐᖅ ᐱᑕᖄᕐᔪᒃᑐᓂᓪᓘᓐᓃᑦ, ᓱᕐᓗ ᐊᒃᑐᐃᓂᕐᓗᓐᓃᑦ ᐆᒪᔪᖃᕐᕕᐅᔪᓂ ᕿᙵᐊᓂ ᑯᕕᓯᕚᕕᐅᕙᒃᑐᒥ ᑕᐃᒪᐃᓐᓇᔭᙱᑦᑐᒃᓴᐅᔪᑦ. ᓴᕕᒃᓴᖃᓇᐊᓪᓚᓕᕐᓂᖓ ᑕᕆᐅᑉ ᐊᕙᑎᖓ ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᐱᓕᕆᐊᒥ ᐱᓕᕆᓃᑦ ᐱᔪᒥᒋᔭᐅᓪᓗᐊᑕᖅᑐᑦ ᓄᓇᖃᖅᑐᓂ ᐃᓄᓐᓂ. ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᑲᓇᑕᒥ ᑲᑎᒪᔨᑦ ᒥᓂᔅᑕᐅᑏᑦ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ (CCME) ᑕᕆᐅᒥ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᖃᐅᔨᓴᔾᔪᑏᑦ (WQG) ᓴᕕᒃᓴᓄᑦ ᐱᕙᓪᓕᐊᑎᑕᐅᓯᒪᙱᑦᑐᖅ. 2023-ᒥ ᑎᑎᖅᑲᖁᑏᑦ ᖃᓄᐃᓐᓂᖅᓴᐅᖕᒪᖔᑕ ᓴᕕᒃᓴᑦ ᑎᑎᖅᑲᖁᑎᖏᓐᓄᑦ ᑲᑎᑕᐅᓯᒪᔪ ᑭᖑᓂᖓᑦᑎᓐᓂ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᒥ (MEEMP) (2017-ᒥᑦ 2022-ᒧᑦ) ᖃᐅᔨᓴᖅᑕᐅᕐᑯᓪᓗᒋᑦ ᐅᔭᕋᖕᓂᐊᕆᐊᓪᓚᖕᓂᖅ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ ᐊᒃᑐᐊᓂᖃᕐᒪᖔᑦ ᓴᕕᒃᓴᖃᕐᓂᖅᓴᐅᓕᕐᓂᕐᒧᑦ. ᑲᑎᔪᒥᑦ ᓴᕕᒃᓴᖃᕐᓃᑦ ᑕᕆᐅᑉ ᐃᒪᖓᓂ ᖃᐅᔨᓴᒐᒃᓴᓕᐅᕐᓂᒥ ᑲᑎᑕᐅᔪᑦ 2023-ᒥ ᑐᙵᓂᓚᐅᖅᑐᑦ ᐱᑕᖃᕐᕕᐅᔪᒧᑦ ᐆᒃᑐᕋᖅᑕᐅᓯᒪᔪᑦ ᑭᖑᓂᖓᑦᑎᓐᓂ ᐊᕐᕌᒍᓂ ᑯᕕᓯᕚᕕᐅᕙᒃᑐᒥ ᑕᐃᑲᓂ MP-05-ᒥ ᐊᒻᒪᓗ MP-06-ᒥ ᑯᕕᓯᕚᕕᐅᕙᒃᑐᓂ. ᑕᖅᑲᐳᓐᓃᖅᑐᑦ ᓴᑯᒃᓴᖃᕐᕕᐊᓂ ᑐᙵᓂᓚᐅᖅᑐᑦ ᖃᐅᔨᓴᐅᖃᑦᑕᕐᓂᒃ ᑭᒡᓕᐅᔪᓄᑦ ᐊᑐᓂ ᖃᐅᔨᓴᒐᒃᓴᓂ ᑲᑎᑕᐅᔪᓂ 2023-ᒥ, ᑐᑭᑖᖅᓯᒪᓪᓗᓂ ᐊᒥᓲᓂᖅᓴᑦ ᖃᐅᔨᓴᐅᔪᓇᖅᑐᑦ ᓴᕕᒃᓴᖃᕐᓂᑦ ᐱᔾᔪᑕᐅᓚᐅᖅᑐᑦ ᒥᑭᔪᖃᓚᐅᙱᑦ ᐊᒻᒪᓗ ᑎᒥᒧᐊᐳᓇᕐᓂᖏᑦ ᐃᒪᕐᒥᐅᑕᓂ ᐆᒪᔪᖃᕐᕕᐅᔪᓂ.

ᖃᐅᔨᓴᐅᔪᑦ ᖃᓄᐃᓕᕙᓪᓕᐊᓂᕆᔭᐅᔪᓂᒃ ᖃᐅᔨᓴᕐᓂᕐᒥᒃ MP-05−ᒧᑦ ᓇᓗᓇᐃᖅᓯᓚᐅᖅᐳᖅ ᐅᔾᔨᕐᓇᖅᑐᒻᒪᕆᖕᒥᒃ ᖃᓄᐃᓕᕙᓪᓕᐊᓂᕆᔭᐅᔪᒥᒃ ᑲᑎᔪᒥᑦ ᓴᕕᒃᓴᐃᑦ ᐱᑕᖃᙱᓐᓂᖏᓐᓂᒃ. ᑕᒪᐃᑎᒍᑦ, 2024 MP-05 ᓈᓴᐅᑎᖏᑦ ᑐᙵᓂᓚᐅᖅᑐᑦ 2023−ᒥᓂᑦ ᐊᕐᕌᒎᓚᐅᖅᑐᒃᑖᐸᓗᓐᓂᓗ. ᐊᕐᕌᒍᒥᑦ−ᐊᕐᕌᒍᒧᑦ ᐊᓯᔾᔨᕐᐸᓪᓕᐊᓂᖏᑦ ᓴᕕᒃᓴᓂᒃ ᐱᑕᖃᕐᕕᐅᔪᑦ ᐊᔾᔨᒌᖃᑦᑕᙱᑦᑐᑦ ᐊᒥᓲᓐᓂᖅᐹᓪᓕᐊᓗᑎᒃ 25 ᐳᓴᓐᑎᒥᑦ ᐱᑕᖃᕐᓂᐅᔪ 2023−ᒥ 2024−ᒥ ᐅᓄᖅᓯᒋᐊᖅᓯᒪᔪᑦ 12%−ᒥᒃ 2020-ᒥ ᐊᒻᒪ 2023-ᒥ. ᐱᑕᖃᕐᕕᐅᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᒍᑦ 2023-ᒥ 2024-ᒥ ᐊᔾᔨᐸᓗᒋᓚᐅᖅᐸᙱᑦ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑐᓄᑦ 2019−ᒥ ᐊᒻᒪ 2020−ᒥ.

ᖃᐅᔨᓴᐅᔪᑦ ᖃᓄᐃᓕᕙᓪᓕᐊᓂᕆᔭᐅᔪᓂᑦ ᕿᒥᕐᕈᓂᕐ MP-06-ᒧᑦ ᓇᓗᓇᐃᖅᓯᓚᐅᖅᐳᖅ ᐊᖏᔪᑲᓪᓚᖕᒥᒃ ᐊᔾᔨᒌᙱᓐᓂᖅᑕᖃᕐᓂᖕᒥᒃ ᑲᑎᔪᒥᑦ ᓴᕕᒃᓴᐃᑦ ᐱᑕᖃᐅᕐᓂᖏᓐᓂ ᐊᕐᕌᒎᖅᓴᖅᑐᓂ. ᑲᑎᔪᒥᑦ ᓴᕕᒃᓴᐃᑦ ᐱᑕᖃᐅᕐᓂᖏᓐᓂ MP-06 ENE ᖃᐅᔨᓴᕝᕕᐊᓂ ᖁᑦᑎᖕᓂᖅᓴᓪᒪᕆᐅᓚᐅᖅᐳᑦ (600% ᐅᓄᖅᓯᒋᐊᖅᑐᑦ) 2024−ᒥ ᒥᒃᓴᐅᓴᕐᓗᒋᑦ 2024−ᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᕿᒥᕐᕈᓚᕐᓗᒋᑦ 2023-ᒧᑦ, ᑭᓯᐊᓂ, ᐱᔾᔪᑕᐅᓚᐅᖅᐳᖅ ᐅᓄᙱᑐᐊᕐᓂᖏᓐᓄᑦ ᓈᓴᐅᑏᖏᑦ ᑎᑎᕋᖅᑕᐅᓚᐅᖅᑐᑦ 2023−ᒥ ᐊᒻᒪ ᐊᔾᔨᒌᙱᑦᑕᕐᔪᐊᕐᓂᖏᓐᓄᑦ ᖃᐅᔨᓴᕿᑏᑦ ᐊᓯᙳᓄᑦ ᐊᕐᕌᒍᓄᑦ. ᐅᔾᔨᕐᓇᕐᔪᐊᖅᑐᓂᒃ ᓛᓐᓇᓚᐅᒃᑲ ᐊᔾᔨᒌᙱᓐᓂᐅᔪᓂᒃ ᓇᓂᓯᔪᖃᓚᐅᙱᑦᑐᖅ ᐊᒥᐊᒃᑯᓄᑦ ᐱᙳᓯᓂ ᐱᓕᕆᕙᖕᓄᑦ, ᐊᒻᒪ 2024−ᒥ ᓈᓴᐅᑏᑦ ᐊᔾᔨᐸᓗᒋᓪᓗᓂᒋᑦ ᐊᑦᑎᖕᓂᖅᓴᐅᓗᑎᒡᓘᓐᓃᑦ ᑭᖑᓂᖓᑦᑎᓐᓂ ᐊᕐᕌᒍᓂ.

2024−ᒥᑦ ᖃᐅᔨᓴᒐᒃᓴᓕᐅᕐᓂᖏᓐᓄᑦ ᐱᓕᕆᐊᓂ, ᓈᓴᐅᑕᐅᓚᐅᔾᔪᖅ ᑲᑎᔪᒥᑦ ᑲᓐᓄᔭᑦ ᐱᑕᖃᐅᕐᓂᖏᑦ ᐃᒪᓐᓇᑎᒋᐅᓚᐅᖅᑐᑦ 3.0 μg/L, 2.5−ᖏᖅᑯᓕᓗᐊᖅᑐᒥᑦ ᐊᒥᓲᓂᖅᓴᐅᓚᐅᖅᑐᑦ 2023−ᒥᑦ (1.2 μg/L), ᐊᑦᑎᖕᓂᖅᓴᐅᓗᑎᒃ 2022−ᒥᑦ (3.5 μg/L). 2024−ᒥ, ᑲᑎᔪᒥᑦ ᑲᓐᓄᔭᐃᑦ ᐱᑕᖃᕐᓂᖏᑦ ᐃᒻᒪᓂᓴᕐᐃᑦ ᖃᓄᐃᓕᖓᕙᓐᓂᖏᓐᓄᑦ ᐃᓗᐊᓃᓚᐅᖅᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᓂ ᑲᑎᓯᒪᔪᓂ. ᐊᖏᓛᖑ ᑲᑎᔪᒥᑦ ᑲᓐᓄᔭᐃᑦ (20.1 μg/L) ᐆᒃᑐᕋᖅᑕᐅᓚᐅᖅᑐᑦ MP-06-ᒥᑦ ᔪᓚᐃ 30, 2024-ᒥᑦ. ᑖᓐᓇ ᐊᖏᓛᖑᔪᖅ ᐃᒪᓐᓇᐸᓗᒃ 4.5-ᖏᖅᑯᖅᓱᓂ ᐊᖏᓂᖅᓴᐅᓚᐅᖅᑐᖅ 2023 ᐊᖏᓛᖑᔪᓂ 4.5 μg/L, ᑭᓯᐊᓂᓕ ᑕᖅᑲᐳᓐᓃᖅᓯᒪᔪᑦ ᑲᓐᓄᔭᐃᑦ ᑲᑎᓯᒪᔪᑦ ᑕᐃᑲᙶᑦᑕᐃᓐᓇᖅ ᖃᐅᔨᓴᒐᒃᓴᒥᑦ 20-ᖏᖅᑯᕐᔪᓂ ᐊᑦᑎᖕᓂᖅᓴᐅᓚᐅᖅᑐᑦ ᑲᑎᑎᓯᒪᔪᓄᑦ 1.04 μg/L, ᑐᑭᖃᖅᑐᖅ ᐅᓄᕐᓂᖅᓴᑦ ᖃᐅᔨᓴᐅᔪᓇᖅᑐᑦ ᑲᓐᓄᔭᐃᑦ ᐱᑕᖃᐅᕐᓂᖏᑦ ᐊᐅᓚᑕᐅᓗᑎᒃ ᐃᓚᐅᕈᑎᓕᖕᒥᑦ ᐱᑕᖃᙱᓐᓂᖅᓴᐅᓗᓂ ᑕᒪᒃᑯᓄᖓ ᐃᓖᓂᓲᓂ ᐆᒪᔪᓂᙵᕐᒧᑦ. ᐊᒻᒪ ᓱᓕ, ᑕᖅᑲᐳᓐᓃᖅᓯᒪᔪᑦ ᑲᓐᓄᔭᐃᑦ ᐱᑕᖃᐅᕐᓂᖏᑦ ᑐᙵᓂᓚᐅᖅᑐᑦ ᖃᐅᔨᓴᐅᔪᓇᖅᑐᓄᑦ ᑭᒡᓕᐅᔪᓄᑦ 31−ᓂᑦ 40-ᐅᔪᓂᑦ ᖃᐅᔨᓴᒐᒃᓴᓂᑦ ᓄᐊᑕᐅᔪᓂᑦ.

ᖃᐅᔨᓴᐅᔪᑦ ᐃᒪᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᕿᒥᕐᕈᓂᑦ ᖁᓛᓂᑦᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑐᑦ ᑖᒃᑯᓄᖓ ᐱᒋᐊᖅᑎᑦᑎᓂᖅ, ᖃᓄᐃᓕᐅᕐᓂᖅ, ᑲᒪᒋᔭᐅᔾᔪᑎᓄᑦ ᐸᕐᓇᐅᑎᓄᑦ (TARP) ᒪᓕᒃᑕᐅᕙᒃᑐᓄᑦ. 'ᐊᒃᐸᓯᒃᑐᑦ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᓂᑦ' ᖃᓄᐃᓕᔪᖅᑲᖅᑳᖅᑎᓐᓇᒧ ᑭᓪᓕᐅᔪᑦ ᐱᒋᐊᖅᑎᑕᐅᓯᒪᙱᑦᑐᑦ 2024−ᒥ ᓲᖅᑲᐃᒻᒪ 30−ᓄᑦ ᐅᓪᓗᓄᑦ ᑐᑭᖃᕐᒪᑦ ᐊᑐᓂ ᐃᒪᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᓇᓗᓇᐃᖅᓯᔾᔪᑎᑦ ᑐᙵᓂᓚᐅᕐᒪᑕ 75% ᐊᑐᖅᑕᐅᔪᓐᓇᖅᑐᓂ ᑲᓇᑕᒥ ᑲᑎᒪᔨᑦ ᒥᓂᔅᑕᐅᑏᑦ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ (CCME) ᐃᒪᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᖃᐅᔨᒪᔾᔪᑕᐅᕙᒃᑐᑦ ᓴᐳᔾᔭᐅᓯᒪᕐᑯᓪᓗᒋᑦ ᐃᒫᓂ ᐃᓅᓯᑦ.

ᐊᑕᖏᖅᑯᖏᑦ, ᖃᐅᔨᓴᐅᔪᑦ ᓇᓗᓇᐃᖅᓯᔪᑦ ᐃᒪᓐᓇ, ᐅᓪᓗᒥᒧᑦ, ᐃᒥᖅ ᑯᕕᔭᐅᕙᒃᑕᖅ ᐅᔭᕋᖕᓂᐊᕐᕕᒻᒥ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᑎᑭᐅᒪᔪᖅ ᐱᑕᖃᓇᐊᓂᓐᓄᑦ ᖃᓄᐃᑦᑑᓂᖓ ᐱ ᐃᒥᕐᒧᑦ ᓚᐃᓴᓐᓯᐅᔪᒧᑦ ᐊᒻᒪᓗ ᐃᒪᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᑭᓪᓕᐅᔪᓄᑦ ᐱᑕᖃᕐᕕᐅᔪᑦ ᓱᓕ ᑐᙵᓂᑦᑐᑦ ᖃᓄᐃᓕᔪᖅᑲᖅᑳᖅᑎᓐᓇᒧ ᑭᓪᓕᐅᔪᓄᑦ ᓯᕋᐃᓇᔭᖅᑐᓄᑦ ᑕᕆᐅᒥ ᐆᒪᔪᖃᖅᑐᒥ. ᓯᕗᒻᒧᐊᒃᐸᓪᓕᐊᑎᓪᓗᑕ, ᒪᓂᓐᓇᖅᓯᖅᓯᒪᔪᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᖅᓴᓂᒃ ᐃᒪᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᐊᑐᓕᖅᑎᑦᑎᖁᔭᐅᓯᒪᔪᑦ.

ᐃᒫᓂᒥ ᐃᓱᕐᓂᑦ ᖃᓄᐃᑦᑑᓂᖏᑦ (ᐃᓛᒃᑰᖅᑕᖅᑐᑦ 3.0)

ᐃᓱᕐᓂᕐᒥ ᖃᐅᔨᓴᐅᑉᓯᒪᐅᕐᓃᑦ ᕿᙵᐊᓂᑦ ᐱᓕᕆᐊᖑᓚᐅᖅᑐᖅ ᓈᒻᒪᖅᑯᓪᓗᒋᑦ ᐅᓭᕆᓐᓂᐊᕈᓐᓇᐅᑎᒥ ᒪᓕᒃᑕᐅᓯᕆᐊᓖᑦ ᓈᓴᐅᑖ 83(ᐃ) ᐊᒻᒪᓗ 99(ᐃ). 2024−ᒥ, ᐱᓗᐊᕈᓐᓃᖅᓯᒪᔪᑦ ᐃᓱᕐᓂᑦ ᖃᓄᐃᑦᑑᓂᖏᑦ ᐊᒻᒪ ᐃᖅᑲᕐᒥᐅᑕᑦ ᐆᒪᔪᓂᒃ ᖃᐅᔨᓴᐅᑉᓯᒪᐅᕐᓂᖅ ᐱᓕᕆᐊᖑᓚᐅᖅᐳᖅ. ᐊᑕᖏᓯᓚᔪᖅ ᑲᑐᔾᔨᖃᑎᖏᓐᓂᒃᑯᑦ ᕿᑎᐊᓂᑦ ᓯᓚᒻᒧᖕᒫᖅ ᐃᖅᑲᖓᓂ ᐊᒻᒪ ᐃᓱᕐᓂᕐᒥᒃ ᖃᐅᔨᓴᐅᑉᓯᒪᐅᕐᓂᒧᑦ ᐱᓕᕆᐊᖅ, ᐱᑕᖃᕐᕕᐅᔪᖅ 60-ᓂᒃ ᖃᐅᔨᓴᕐᕕᖕᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᖅᑕᐅᔪᓂᒃ ᐊᕐᕋᒍᓄᑦ-ᐱᖓᓱᓄᑦ ᐋᖅᑭᒃᓯᒪᕙᒃᑐᑦ, ᐱᓕᕆᐊᖑᓚᐅᖅᑐᑦ 2023-ᒥ, ᐊᒻᒪ ᐊᑐᓕᖅᑎᑕᐅᓂᐊᖅᓱᑎᒃ 2026-ᒥ.

2024−ᒥ ᐃᓱᕐᓂᒃᒧᖅ (ᐊᒻᒪᓗ ᐃᖅᑲᕐᒥᐅᑕᑦ ᐆᒪᔪᑦ) ᐱᓕᕆᐊᖅ ᐱᔾᔪᑎᖃᓪᓗᐊᑕᓚᐅᖅᐳᑦ 8−ᓂᒃ ᐊᖏᔪᕐᔪᐊᓂᒃ ᐅᒥᐊᕐᔪᐊᓂᑦ ᖃᐅᔨᓴᕐᕕᖕᓂ (SW-1−ᒥ SW-4−ᒧᑦ, SE18-1, SNW-1, SCV-1 ᐊᒻᒪ SCV-2) ᐋᖅᑭᒃᑕᐅᓚᐅᖅᓯᒪᔪᖅ 2023−ᒥ. ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ ᖃᐅᔨᓴᐅᑉᓯᒪᓄᑦ ᐱᓕᕆᐊᖅ ᐊᑐᓕᖅᑎᑕᐅᓚᐅᖅᐳᖅ ᖃᐅᔨᓴᖅᑕᐅᕐᑯᓪᓗᒋᑦ ᐊᒃᑐᐃᔾᔪᑕᐅᔫᑦ ᑭᓂᖅᑎᖅᑕᐅᔪᓄᑦ ᐊᒻᒪ ᐃᖅᑲᕐᒥᐅᑕᑦ ᐊᕐᕌᒍᓄᑦ ᐱᖓᓱᓄᑦ ᐊᑐᖅᑕᐅᓚᐅᖅᑎᓪᓗᒋᑦ ᐊᖏᔪᑦ (ᒥᑭᓂᖅᕕᕐᔪᒃ ᐊᖏᔪᕐᔪᐊᓂᑦ ᐅᒥᐊᕐᔪᐊᖅ ᐊᒻᒪ ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ) ᓴᕝᕙᓂᒃ ᐅᓯᑦ ᐅᑭᐊᒃᕖᒃᑯᑦ 2023−ᒥ. ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐊᒃᑐᖅᑕᐅᓂᖏᓐᓂᒃ ᖃᐅᔨᓴᕐᓂᖅ ᐱᕆᐊᓚᐅᖅᓯᒪᕗᖅ ᐋᒃᑮᓯ 2023−ᒥ (4-19 ᐋᒃᑮᓯ 2023) ᑐᕋᖓᖃᖅᓱᑎᒃ ᑎᑎᕋᖅᐸᓪᓕᐊᔪᒪᓪᓗᑎᒃ ᖃᓄᐃᓕᖓᓂᕆᔭᖏᓐᓂᒃ ᑭᓂᓗᐊᔾᔭᐃᒃᑯᑎᓂᒃ ᐊᑐᖅᑕᐅᓯᕕᐊᓚᐅᙱᓐᓂᖏᓐᓂᒃ ᐊᖏᓂᖅᓴᑦ ᓴᕝᕙᓪᓕᕆᓯᑦ. ᓯᕗᓪᓕᖅ ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᖅ ᑎᑭᓚᐅᖅᑐᖅ ᕿᙵᐊᑦ ᑐᓚᒃᑕᕐᕕᖕᒧᑦ 29 ᐋᖓᔅᑦ 2023−ᒥᑦ ᐱᐊᓂᒃᑕᐅᓚᐅᖅᑎᓪᓗᒍ 2023−ᒥᑦ ᖃᐅᔨᓴᖕᓂᖕᒧᑦ ᐱᓕᕆᐊᖅ. ᑲᑎᕐᓱᒋᑦ, ᑖᓪᓚᒪᓂᒃ ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ (ᐃᓚᒋᔭᐅᓪᓗᓂ ᒥᑭᓂᖅᕕᕐᔪᒃ ᐊᖏᔪᕐᔪᐊᓂᑦ ᐅᒥᐊᕐᔪᐊᖅ) ᐃᖏᕐᕋᑲᑕᓚᐅᖅᑐᑦ ᕿᙵᐊᑦ ᑐᓚᒃᑕᕐᕕᖕᒧᑦ 2023−ᒥ. 2024−ᒥ, ᑭᒡᒐᖅᑐᐃᓪᓗᓂ ᐊᕐᕌᒍ 1−ᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᓂᕐᒧᑦ ᐱᓕᕆᐊᖑᔪᒥ, ᖃᐅᔨᓴᕐᓃᑦ ᑎᒥᖏᓐᓂ ᐃᓚᐅᕈᑎᖏᑕᓗ ᖃᓄᐃᓕᖓᓂᖏᓐᓂᒃ ᐱᓕᕆᐊᖑᓚᐅᖅᐳᑦ ᖃᐅᔨᓴᐅᑉᓯᒪᓄᑦ ᑲᑎᑕᐅᔪᓄᑦ 8−ᓂᑦ ᐅᖓᑎᓕᖕᒥᑦ ᖃᐅᔨᓴᐅᑉᓯᓂᑦ ᐃᓂᓂᑦ ᐃᓚᐅᖁᐅᓪᓗᑎᒃ ᐊᖏᓂᖏᓐᓄᑦ, ᓴᕝᕋᔭᖕᓄᑦ, ᓄᓇᒥᓗ ᐃᓂᒋᔭᐅᔪᓄᑦ ᑭᒡᓕᒋᔭᐅᔪᓄᑦ. ᐱᑕᖃᕐᓂᖏᑦ ᑭᓂᖅᑐᑦ ᐱᐅᓂᖏᓐᓄᑦ ᓇᓗᓇᐃᖅᓯᔾᔪᑏᑦ ᓇᓗᓇᐃᖅᑕᐅᓚᐅᖅᑐᑦ ᐊᑦᑎᓂᖅᓴᐅᓗᑎ ᐊᑐᐃᓐᓇᐅᔪᓂᑦ ᑭᓂᖅᑎᑭᑎᓂᑦ ᐱᐅᓂᖏᓐᓄᑦ ᐊᑐᐊᕋᕐᓂᑦ ᐊᒻᒪ ᑲᑎᑎᖅᓯᒪᔪᑦ ᐱᕈᖅᑐᐃᑦ ᑭᒡᓕᖏᑦ ᖃᐅᔨᔭᐅᓚᐅᖏᑦᑐᑦ ᖃᐅᔨᓴᐅᑉᓯᓂᑦ.

ᑕᑯᒃᓴᐅᑎᑕᐅᓪᓗᓂ ᓈᓴᐅᓯᕆᓂᒃᑯᑦ ᕿᒥᕐᕈᓂᒃᑯᑦ, ᐅᔾᔨᕐᓇᖅᑐᒻᒪᕆᖏᒃ ᐅᓄᕈᓐᓂᕆᐊᖅᑐᖃᓚᐅᖅᐳᖅ ᐃᓚᖓᓄᑦ ᒥᑭᔪᕋᓛᑦ ᐃᓱᕐᓂᑦ ᑖᒃᑯᓇᓂ ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐃᓂᖏᓐᓂ 2023 ᐊᒻᒪᓗ 2024. ᐊᔾᔨᒌᙱᑦᑕᕐᓂᖏᓐᓄᑦ ᖃᓄᐃᓕᖓᓂᖏᑦ ᐃᓱᕐᓂᑦ ᖃᐅᔨᓴᕐᕕᐅᔪᓂ ᐃᓚᒋᔭᐅᓪᓗᑎᒃ ᖃᖓᒃᑰᕐᓂᖏᓐᓄᑦ ᖃᐅᔨᓴᕈᑏᑦ ᐳᔪᕋᕋᓛᓄᑦ ᓴᖅᑮᖅᑎᑦᑎᔪᖅ ᑕᒪᒃᑯᐊ ᖃᐅᔨᓴᕐᕙᓗᒃᑖᐸᓗᑦ ᓴᖅᑮᖅᑎᑦᑎᔪᑦ ᐃᓚᖓᓂᒃ ᐅᓄᕈᓐᓂᖅᐸᓪᓕᕐᓂᐅᔪᓂᒃ ᒥᑭᔪᕋᓛᑦ ᐊᑯᓂᖓᓂ 2023 ᐊᒻᒪ 2024, ᐃᓚᖏᓐᓄᑦ ᖃᐅᔨᓴᕐᕕᖕᓄᑦ ᐅᕈᓐᓃᓪᓚᑦᑖᕐᓂᐅᔪᑦ ᐳᓴᓐᑏᑦ ᒥᑭᔪᕋᓛᓂ ᐅᓄᙱᒃᑲᓗᐊᖅᑎᓪᓗᒍ ᐊᒻᒪ ᓴᖅᑮᖅᑎᑦᑎᔪᑦ ᖃᓄᐃᓕᕙᓪᓕᐊᖏᓐᓇᕐᓂᖏᑦ ᐅᓄᙱᑦᑐᑦ ᒥᑭᔪᕋᓛᑦ ᐃᓗᓕᖏᑦ ᓇᓗᓇᐃᕈᑎᖃᖅᑐᑦ 2024-ᖑᓚᐅᖅᑎᓇᒍ ᓴᖅᑮᖅᑎᑦᑎᓪᓗᑎᓪᓗ ᐱᑕᖃᖅᐸᒌᖅᑐᓂᒃ ᑕᒪᑐᒧᖓ 2024-ᒥ ᕿᒥᕐᕈᓂᕐᒥ. ᐱᔾᔪᑎᒋᓪᓗᒋᑦ ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐃᖏᐅᓕᖏᑦ ᐊᒻᒪ ᐊᖑᑎᖏᓐᓂ ᐊᐅᓚᔾᔮᒃᑎᑕᐅᕙᒃᑐᓂᒃ ᕿᒥᕐᕈᓃᑦ (WSP 2023), ᑕᒪᓇ ᖃᐅᔨᓴᕐᓂᖅ ᓇᓚᐅᑦᑖᖅᑐᑦ ᐃᖅᑲᖓᓂ ᐊᐅᓚᔾᔮᒃᑎᑕᐅᔪᓄᑦ ᐊᒃᑐᐃᓃᑦ ᑖᓪᓚᒪᓂ ᐊᕝᕙᓂᓖᑦ ᒪᕐᕈᓪᓗ ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᓄᑦ ᖃᐅᔨᓴᐅᑉᓯᒪᐅᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᕐᕕᖏᓐᓂ. ᐱᖓᓱᓂ ᖃᐅᔨᓴᕐᓂᖕᓂ ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᙱᑦᑐᑦ ᐊᒃᑐᖅᑕᐅᓂᕐᒧᑦ ᐃᖅᑲᖓᓂ ᐊᐅᓚᔾᔮᒃᑎᑕᐅᓂᕐᒧᑦ ᐋᖅᑭᖖᒍᐊᖅᑕᐅᓯᒪᔪᓄᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ, ᖃᐅᔨᓴᕐᕖᑦ ᐃᒪᐃᓐᓇᕐᒥ ᓴᕝᕙᓂᒃ ᐅᓯᖅᓯᐃᕝᕙᖏᒥ ᐃᑎᓂᖅᓴᓂ (SCV-1) ᓴᖅᑮᖅᑎᑦᑎᓯᒪᙱᑦᑐᑦ ᐅᔾᔨᕐᓇᐅᑎᓂᒃ ᐃᖅᑲᖓᓂ ᐊᐅᓚᔾᔮᒃᑎᑕᐅᔪᓂᒃ 2024-ᒥ; ᐃᒪᐃᒻᒪᑦ, ᓯᐅᔾᔭᒥ ᖃᐅᔨᒪᕐᕖᑦ ᐃᒃᑳᓂᖅᓴᒥ ᐃᒫᓂ ᑕᐅᕝᕙ ᐱᓇᖓᓇᖖᒑᖓᒍᑦ ᑕᐅᕗᖓ ᑰᓚᓵᖓᓄᑦ ᖃᓄᑐᐃᓐᓇᖅ ᑕᐃᒪᐃᓕᖓᐃᓐᓇᖅᑐᑦ ᐅᓄᙱᕐᓱᑎᒃ ᒥᑭᔪᕋᓛᑦ (SW-3) ᐅᕝᕙᓘᓐᓂᑦ ᓴᖅᑮᖅᑎᑦᑎᓱᑎᒃ ᐅᓄᕈᓐᓂᖅᐹᓪᓕᕐᓂᖏᓐᓂᒃ ᒥᑭᔪᕋᓚᑦ 2024-ᒥ ᐊᒃᑐᐊᓂᖃᖅᑐᑦ 2023-ᒧᑦ (SW-4). ᑭᓯᐊᓂᓕ ᐃᓕᓴᕆᔭᐅᓯᒪᔪᖅ ᑖᒃᑯᐊ ᓯᐅᔾᔮᑦᑐᑦ ᖃᐅᔨᓴᕐᕖᑦ ᐱᔾᔪᑕᐅᑐᐃᓐᓇᕆᐊᓖᑦ ᐊᒃᑐᐃᓂᐅᖏᓐᓇᖅᑐᓄᑦ ᑕᐃᒪᐃᑐᐃᓐᓇᖃᑦᑕᖅᑐᑦ ᓯᐅᔾᔭᒥ ᐱᕙᓪᓕᐊᓂᐅᕙᒃᑐᓂ ᐊᒻᒪ ᐊᔾᔨᒌᒃᑕᖃᑦᑕᙱᓐᓂᖏᓐᓂᒃ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ, ᐊᒻᒪ/ᐅᕝᕙᓘᓐᓂᑦ ᐃᓱᕐᓂᑦ ᐃᖏᕐᕋᑦᑕᕐᓂᖏᓐᓄᑦ ᑲᖏᖅᓱᖕᒧᑦ ᑰᓚᓵᒃᑯᑦ ᐃᓚᖓᒍᑦ, ᐊᒻᒪᓗᒃᑕᐅᖅ ᐊᒃᑐᐃᓂᖃᖅᑕᕆᐊᑐᐃᓐᓇᕆᐊᓕᒃ ᐊᖑᑏᑦ ᐃᖅᑲᖓᓂ ᐊᐅᓚᔾᔮᑦᑎᖃᑦᑕᕐᓂᖏᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐃᖏᕐᕋᑦᑕᖅᑎᓪᓗᖏᑦ. ᐊᒻᒪᓗᒃᑲᓂᖅ, ᐱᒻᒪᕆᐅᔪᖅ ᐅᔾᔨᕆᔭᐅᓗᓂ, ᑕᒪᓇ ᑕᐃᒪᐃᒃᑲᓗᐊᖅᑎᓪᓗᒍ ᐱᑕᖃᐅᑎᓇᕆᐊᖃᖅᑐᖅ ᐊᖑᑎᓂᑦ ᐊᐅᓚᔾᔮᒃᑎᑕᐅᓂᕐᒧᑦ ᐊᒃᑐᖅᑕᐅᓃᑦ, ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᑦ ᐱᑕᖃᕐᓂᓪᓚᑎᖏᑦ ᑕᐅᕙᓂ SW-3-ᒥ ᐊᒻᒪ SW-4-ᒥ ᐊᔾᔨᒌᙱᓐᓂᖃᕐᔪᐊᖅᓯᒪᙱᑦᑐᑦ 2024-ᒥ ᐊᒻᒪ 2023-ᒥ, ᑕᒪᐃᓐᓂᒃ ᖃᐅᔨᓴᕐᕖᑦ ᐃᑲᔪᖅᑕᐅᖏᓐᓇᖅᑐᑦ ᐊᔾᔨᒌᙱᑦᑐᓂ ᐃᖅᑲᖓᓂ ᕿᒥᕐᓗᖃᙱᑦᑐᓂ ᐱᑕᖃᕐᕕᐅᔪᓂ.

2024-ᒥ, ᐱᑕᖃᕐᓂᐅᔪᑦ ᓴᕝᕙᓂᒃ ᐃᓱᕐᓂᕐᒥ ᖃᐅᔨᓴᐅᑉᓯᒪᐅᖅᑕᐅᓯᒪᔪᑦ ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ ᖃᐅᔨᓴᕐᕕᐊᓂ ᑐᖖᒋᓂᓚᐅᖅᑐᑦ ᑲᓇᑕᒥ ᑲᑎᒪᔩᑦ ᒥᓂᔅᑕᐅᑏᑦ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ (CCME) ᖃᐅᔨᒪᔾᔪᑕᐅᕙᒃᑐᓂ ᓴᐳᔾᔭᐅᓯᒪᕐᑯᓪᓗᒋᑦ ᐃᒫᓂ ᐆᒪᔪᑦ (ᑲᓇᑕᒥ ᑲᑎᒪᔩᑦ ᒥᓂᔅᑕᐅᑏᑦ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ (CCME) 1999) ᐊᒻᒪ NOAA ᐃᓱᕐᓂᕐᒧᑦ ᖃᐅᔨᒋᐊᕐᕕᐅᔪᓇᖅᑐᑦ (ᐸᒃᒪᓐ 2008). ᖃᐅᔨᔭᐅᓯᒪᓕᓗᑎᒃ ᑭᖑᓂᖓᒍᑦᑎᓐᓂ ᑕᑎᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓂ (MEEMP) ᐊᕐᕌᒍᖏᓐᓂ, PAHs ᐊᓪ ᓱᕐᓯᐊᓗᒃᓴᑦ ᖃᐅᔨᔭᐅᓯᒪᙱᑦᑐᑦ ᐃᓱᕐᓂᕐᓂ ᖃᐅᔨᓴᐅᑉᓯᒪᐅᖅᑐᓂ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ 2024-ᒥ. ᓴᕝᕙᖅᑲᐅᕐᓂᑦ ᕿᙵᐊᓂ ᑕᐃᓭᐅᓯᒪᔪᑦ ᐃᓄᖕᓂᑦ

ᐃᓱᒫᓗᑕᐅᓪᓗᑎᒃ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ ᐅᓄᖅᓯᕙᓪᓕᐊᑐᐃᓐᓇᕆᐊᖃᕐᓂᖓᓄᑦ ᓯᐊᒻᒪᒃᐸᒃᑐᖅ ᓴᕕᒃᓴᖅ ᐳᔪᕋᐅᓗᓂ ᐅᑉᕙᓘᓐᓃᑦ ᑰᒃᑐᓂ ᑐᖅᑯᐃᕝᕕᐅᕙᒃᑐᓂ ᑲᑎᑦᑎᕝᕕᖕᒥ. ᑕᕆᐅᒥ ᐃᓱᕐᓂᕐᒧᑦ ᖃᐅᔨᒪᔾᔪᑕᐅᕙᒃᑐᑦ ᓴᕕᒃᓴᒧᑦ ᒫᓐᓇ ᐊᑐᐃᓐᓇᐅᙱᑦᑐᑦ ᐊᒻᒪᓗ, ᑕᐃᒪᐃᓐᓂᖓᓄᑦ, ᐊᖏᔪᕐᔪᐊᓄᑦ ᐅᒥᐊᕐᔪᐊᓄᑦ ᖃᐅᔨᓴᕐᕖᑦ ᐃᓱᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᕈᑏᑦ ᓴᕕᒃᓴᓂ ᕿᒥᕐᕈᔭᐅᓯᒪᔪᑦ ᐊᑐᖅᓱᑎᒃ ᐊᔾᔨᐸᓗᖏᓐᓂᒃ ᓈᓴᐅᓯᕆᓂᖅᑎᒍᑦ ᐊᑐᖅᑕᐅᓇᓱᐊᖅᑐᑦ ᐊᑐᖅᑕᐅᓪᓗᑎᒃ ᕿᒥᕐᓇᕈᔭᐅᓗᑎᒃ ᐃᓚᖏᑦ ᒥᑭᔪᕋᓛᑦ ᐃᓱᕐᓃᑦ ᐊᕐᕕᓂᓛᑦ ᒪᕐᕉᖕᓂ ᐊᖏᔪᕐᔪᐊᓄᑦ ᐅᒥᐊᕐᔪᐊᓄᑦ ᖃᐅᔨᓴᕐᕕᖕᒥ, ᒪᓕᑐᐃᓐᓇᖅᑐᑦ ᑭᖑᓂᖓᓕᑦᑎᓐᓂ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓂ (MEEMP) ᐅᓂᒃᑳᓄᑦ. ᐱᑕᖃᖅᓯᒪᔪᖅ ᐊᑕᖏᓯᒪᔪᓂᒃ ᓈᓴᐅᓯᕆᓂᕐᒧᑦ ᐅᓄᕈᓐᓃᖅᐹᓪᓕᕐᔪᐊᕐᓂᕐᓂᒃ ᓴᕕᒃᓴᓂᒃ ᐱᑕᖃᕐᓂᐅᔪᓂ ᐅᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ ᖃᐅᔨᓴᕐᕕᖏᓐᓂ ᐊᑯᓐᓂᖓᓂ 2024 ᐊᒻᒪ ᐱᑕᖃᖅᐸᓖᖅᑐᑦ 2023-ᒥ ᓯᕗᓂᐊᒍᑦ ᐊᑐᖅᑕᐅᓕᖅᑳᖅᑎᓐᓇᕆᑦ ᐅᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ. ᐅᔾᔭᕆᔭᐅᓯᒪᔪᖅ ᑕᒪᒃᑯᓄᖓ ᒥᑭᔪᕋᓛᓄᑦ ᐱᑕᖃᕐᕕᐅᔪᓂ ᐃᓱᕐᓂᕐᒥ, 2024-ᒥ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐸᓕᕆᐊᓂ (MEEMP) ᖃᐅᔨᓴᕋᒃᓴᐃᑦ ᖃᐅᔨᓯᒪᕙᓗᐊᖅᑎᓪᓗᒋᑦ ᐊᖏᔪᒃᑯᑦ ᐱᐅᓯᐅᕙᒃᑐᓂ ᐃᓱᕐᓂᕐᒥ ᓴᕕᒃᓴᖅ ᓱᓕ ᐊᔾᔨᒋᔭᐅᖃᑦᑕᙱᑦᑐᑦ ᑖᒃᑯᓇᓂ ᖃᐅᔨᓴᕐᕕᐅᔪᓂ, ᐅᔾᔨᕐᓇᕐᓂᖅᓴᐃᑦ ᒫᓐᓇᓚᐅᖅᑲᒃ ᐱᐅᓯᐅᕙᒃᑐᑦ ᓇᓗᓇᐃᖅᓯᒪᔪᑦ ᐱᓕᕆᐊᖑᕙᓪᓕᐊᑎᓪᓗᒋᑦ ᐊᑯᓂᐅᔪᒃᑯᑦ.

2024-ᒥ ᖃᐅᔨᓴᐅᔪᑦ ᐅᖏᔪᕐᔪᐊᓂ ᐅᒥᐊᕐᔪᐊᑦ ᐃᓱᕐᓃᒃ ᖃᓄᐃᑦᑑᓂᖏᓐᓂᒃ ᕿᒥᕐᕐᑯᓂᖅᓴᑦ ᕿᒥᕐᕈᔭᐅᓯᒪᔪᑦ ᑖᒃᑯᓄᖓ ᐱᒋᐊᖅᑎᑦᑎᓂᖅ, ᖃᓄᐃᓕᐅᕐᓂᖅ, ᑲᒪᒋᔭᐅᔾᔪᑎᓄᑦ ᐸᕐᓇᐅᑎᓄᑦ (TARP) ᒪᓕᒃᑕᐅᔭᕆᐊᓕᖕᓄᑦ (ᑎᑎᕋᖅᓯᒪᔪᖅ 3-2). ᑕᒪᓐᓇ 'ᐊᒃᐸᓯᒃᑑᔪᖅ ᐅᓗᕆᐊᓇᕈᓐᓇᕐᓂᖓ' ᐱᒋᐊᕈᑕᐅᔪᖅ ᖃᓄᐃᓪᓕᔪᖃᖅᑳᖅᑎᓐᓇᒍ ᐱᒋᐊᖅᑎᑕᐅᓯᒪᙱᑦᑐᑦ ᐃᓱᕐᓃᑦ ᖃᓄᐃᑦᑑᓂᖏᓐᓄᑦ ᑕᒪᑐᒧᖓ 2024-ᒥ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐸᓕᕆᐊᓂ (MEEMP) ᑐᕌᒐᖅᓱᑎᒃ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᕿᒥᕐᕈᔭᐅᓗᑎᒃ ᑖᒃᑯᓄᖓ ᐊᕐᕌᒍ 1-ᒧᑦ, 2024-ᒥ ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᓂᒃ ᖃᐅᔨᓴᕋᒃᓴᓕᐅᕐᕖᑦ ᓴᖅᑮᓯᒪᔪᑦ ᑕᒪᒃᑯᓄᖓ ᐱᑕᖃᖅᐸᓖᖅᑐᓄᑦ 2023-ᒥ ᖃᐅᔨᓴᐅᔪᑦ ᑖᒃᑯᓇᙱᑦ ᖃᐅᔨᓴᕐᕕᐅᔪᓂ.

ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒥ ᖃᐅᔨᓴᐅᔪᑦ 2024-ᒥ ᓱᓕ ᐃᓗᐊᓃᑦᑐᑦ ᑎᑎᕋᕆᐊᙳᖅᑕᐅᓯᒪᔪᑦ ᑭᖑᓪᓕᖅᐹᒥᒃ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐃᓂᐅᓂᐊᖅᑐᑦ ᐅᓂᒃᑳᓂ (FEIS) ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᓂ ᑭᖑᓂᐊᒍᓪᓗ ᐅᐃᒍᕐᓂ, ᒥᒃᓴᐅᓴᐃᓯᒪᔪᑦ ᐊᖏᔪᒥᒃ ᐊᒥᐊᒃᑯᓂᒃ ᐊᒃᑐᐃᓂᖅᑕᖃᙱᓐᓂᖓᓂᒃ ᐃᓱᕐᓂᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ. ᐱᔾᔪᑎᒋᓪᓗᒋᑦ ᐊᑐᖅᑕᐅᖏᓐᓇᓕᕐᓂᖏᓐᓂᓄᑦ ᐊᖏᓂᖅᓴᑦ ᓴᕕᒃᓴᓂᒃ ᐅᓯᔾᔨᑦ ᐅᒥᐊᕐᔪᐊᑦ (ᒥᑭᓂᖅᓵᕐᔪᒃ ᐊᖏᔪᕐᔪᐊᓂᑦ ᐅᒥᐊᕐᔪᐊᖅ ᐊᒻᒪ ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ) ᕿᙳᐊᓂ ᓂᕆᐅᒋᔭᐅᔪᑦ, ᐹᕙᓚᖓᑯᑦ ᐱᓂᐊᕐᓂᕋᖅᓯᒪᔪᑦ ᐊᑯᓚᐃᓐᓂᖏᑦ ᐊᕐᕌᒍᑕᒫᑦ ᖃᐅᔨᓴᕋᒃᓴᓕᐅᕐᓂᕐᓂᒃ ᐊᖏᔪᕐᔪᐊᓄᑦ ᐅᒥᐊᕐᔪᐊᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᕕᐅᔪᓂ ᐅᓄᙱᓕᖅᑐᔪᓇᕐᓗᑎᒃ ᐱᖓᓱᓄᑦ ᐊᕐᕌᒍᓄᑦ ᑭᖑᓂᐊᒍᑦ ᓯᕗᓪᓕᖅᐹᒥ ᐊᑐᓯᕆᐊᖅᑕᐅᓚᐅᕐᓂᖏᑦ ᐊᖏᓂᖅᓴᑦ ᓴᕕᒃᓴᓂᒃ ᐅᓯᔾᔪᒃᓴᑦ ᐅᒥᐊᕐᔪᐊᑦ, ᓇᓗᓇᐃᖅᑕᐅᕐᑯᓪᓗᒋᑦ ᐱᓕᕆᐊᒧᑦ-ᐊᒃᑐᐊᒧᑦ ᐊᒃᑐᐃᓃᑦ ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᐊᓯᔾᔨᕐᓂᖏᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐊᖏᓕᓃᖅᓂᖏᑦ. ᑐᑭᓯᔭᐅᑎᑦᐊᕐᑯᓪᓗᖏᑦ ᐃᖅᑲᖓᓂ ᐊᐅᓚᔾᔭᒃᑎᑕᐅᕙᒃᑐᑦ ᓯᓚᑖᓂ ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᑦ ᑭᓪᓕᐅᔪᖅ ᐊᒃᑐᖅᑕᐅᔪᓄᑦ (ZOI) ᑕᒪᒃᑯᓇᙱᑦ ᐊᖏᔪᕐᔪᐊᓂᑦ ᐅᒥᐊᕐᔪᐊᓂᑦ ᑐᑯᖃᓯᐅᑎᓪᓗᒋᑦ ᐊᒃᑐᐃᓃᑦ ᑕᐃᒪᐃᑐᐃᓐᓇᖅᑐᑦ ᓯᕗᓐᖓᓂ ᐱᕙᓪᓕᐊᓂᐅᕙᒃᑐᑦ, ᐃᓯᒪᒋᖃᓯᐅᑎᓗᒋᑦ ᐅᖓᕙᕆᐊᕐᓗᒍ 2025-ᒧᑦ ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᓂᑦ ᖃᐅᔨᓴᕋᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ ᑕᐅᕝᕙ ᐱᓇᖕᓇᖕᓛᖕᒐᒧᑦ ᑐᑭᓕᐊᓕᖅᑎᓯᒪᔪ ᐱᖃᓯᐅᔾᔭᓗᑎᒃ SW-5-ᒥᒃ ᐊᒻᒪ SW-6-ᒥᒃ, ᑲᑎᒍᒋᑦ ᖁᓕᓂᑦ ᖃᐅᔨᓴᕐᕖᑦ ᐃᓱᕐᓃᑦ ᖃᓄᐃᑦᑑᑕᐅᓂᖏᓐᓄᑦ ᐊᒻᒪ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᓂ ᖃᐅᔨᓴᕋᒃᓴᓕᐅᕐᓂᕐᒧᑦ.

ᐊᑕᖏᖅᓯᒪᔪᓂ, ᖃᐅᔨᓴᐅᔪᑦ ᓇᓗᓇᐃᖅᓯᔪᑦ ᐃᒪᓐᓇ, ᐅᓪᓗᒥᒧᑦ, ᐃᒫᓂ ᐃᓱᕐᓂᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᖃᐅᔨᓴᐅᔪᑦ ᐃᓗᐊᓃᑦᑐᑦ ᓱᓕ ᑭᖑᓪᓕᖅᐹᒥᒃ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐃᓂᐅᓂᐊᖅᑐᑦ ᐅᓂᒃᑳᓂ (FEIS) ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᓂ ᐊᒻᒪ ᑭᖑᓂᐊᒍᑦ ᐅᐃᒍᕐᓂ, ᓇᓚᐅᑦᑖᖅᓯᒪᓪᓗᑎᒃ ᐊᖏᔪᒥᒃ ᐊᒥᐊᒃᑯᓂᒃ ᐊᒃᑐᐃᓂᖅᑕᖃᙱᓐᓂᖓᓂᒃ ᐃᓱᕐᓂᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᑭᓯᐊᓂᓕ ᓇᓗᓇᐃᖅᓯᓪᓗᑎᒃ ᐱᑕᖃᑐᐃᓐᓇᕆᐊᖃᕐᓂᖓᓂᒃ ᒥᑭᑦᑐᓂᒃ ᓄᓇᖕᓂᑐᐊᖅ ᐃᓱᕐᓂᒥ ᐸᓪᕕᓴᐃᓃᑦ ᐊᒃᑐᐊᓂᖃᖅᑐᑦ ᐊᖑᑎᓂᑦ ᐊᐅᓚᔾᔭᒃᑎᑕᐅᕙᒃᑐᓂ, ᓂᕆᐅᒋᔭᐅᓪᓗᓂᓗ ᐋᖅᑭᒍᑎᓂᐊᕐᓂᖓᓂᒃ ᐊᑯᓂᐅᔪᒃᑯᑦ. ᑕᒪᓐᓇ ᐱᒋᐊᖅᑎᑦᑎᓂᖅ, ᖃᓄᐃᓕᐅᕐᓂᖅ, ᑲᒪᒋᔭᐅᔾᔪᑎᓄᑦ ᐸᕐᓇᐅᑎᓄᑦ (TARP) 'ᐊᒃᐸᓯᒃᑐᓂᒃ ᐅᓕᕆᐊᓇᕈᓐᓇᕐᓂᕐᒧᑦ' ᖃᓄᐃᓕᔪᖃᖅᑳᖅᑎᓐᓇᒍ ᑭᓪᓕᐅᔪᑦ ᐱᒋᐊᖅᑎᑦᑎᓯᒪᙱᑦᑐᑦ ᐊᒻᒪ ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᓂᒃ ᖃᐅᔨᓴᕋᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ ᐱᕙᓪᓕᐊᖏᓐᓇᕐᓂᐊᖅᑐᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓗᑎᒃ ᐊᖑᓂᑎᑦ ᐊᐅᓚᔾᔭᒃᑎᑕᐅᕙᒃᑐᓄᑦ ᐊᒃᑐᐃᓂᕐᓂ ᐃᓱᕐᓂᕐᒧᑦ ᐊᒻᒪ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᓄᑦ.

ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᑦ (ᐃᓛᒃᑯᖅᑕᖅᑐᑦ 4.0)

ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᓂᑦ ᖃᐅᔨᓴᕋᒃᓴᓕᐅᕐᓃᑦ ᕿᙳᐊᓂ ᐱᓕᕆᐊᖑᓚᐅᖅᑐᑦ 2024-ᒥ ᓈᒻᒪᒃᓯᓯᒪᕐᑯᓪᓗᒋᑦ ᐅᔭᕋᖕᓂᐊᕈᓐᓇᐅᑎᒥ ᒪᓕᒋᐊᓕᒃ ᓈᓴᐅᑖ 83(ᐃ) ᐊᒻᒪᓗ 99(ᐃ). 2024-ᒥ, ᐅᓄᕈᓐᓃᖅᐹᓪᓕᖅᓯᒪᔪᑦ ᐃᓱᕐᓂᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᐊᒻᒪ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᓂᒃ ᖃᐅᔨᓴᕋᒃᓴᓕᐊᑦ ᐱᓕᕆᐊᓄᑦ ᐱᓕᕆᐊᖑᓚᐅᖅᑐᑦ. ᐊᑕᖏᖅᓯᒪᔪᑦ ᑲᑐᔾᔨᐅᔪᑦ ᕿᑎᐊᓂ ᓯᓚᑖᓄᑦ ᑐᑭᓕᐊᖅᑐᓂ ᐃᖅᑲᖓᓂ ᐊᒻᒪ ᐃᓱᕐᓂᕐᒥ

ᖃᔨᐅᓴᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ, ᐃᓗᓕᖃᖅᑐᑦ 60-ᓂ ᖃᐅᔨᓴᕐᕕᖕᓂ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖕᒋᓐᓇᕐᓂᕐᒧᑦ ᐱᖕᒐᓱᓐᓂᑦ-ᐊᕐᕌᒍᓐᓂᑦ ᐊᑐᖅᑕᐅᔪᒃᑐᓐᓂᑦ, ᐱᓕᕆᐊᖑᓚᐅᖅᑐᑦ 2023-ᒥ, ᐊᒻᒪ ᐊᑐᓕᖅᑎᑕᐅᓂᐊᖅᓱᑎᒃ 2026-ᒥ.

ᑖᒃᑯᐊ 2024-ᒥ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖕᒋᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ (MEEMP) ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᓂᒃ (ᐊᒻᒪ ᐃᓱᕐᓂᕐᒧᑦ) ᐱᓕᕆᐊᑦ ᑐᕌᓚᔪᑦ ᐊᕐᕕᓂᓕᖕᓄᑦ ᒪᕐᕉᖕᓄᓪᓗ ᐊᖕᒋᔪᕐᔪᐊᓄᑦ ᐅᒥᐊᕐᔪᐊᓄᑦ ᖃᐅᔨᓴᒃᓴᓄᑦ ᖃᐅᔨᓴᕐᕕᒃᓂ (SW-1 ᑕᐃᑯᖓᓱᖓᖅ SW-4, SE18-1, SNW-1, SCV-1 ᐊᒻᒪ SCV-2) ᓴᖅᑭᑕᐅᓯᒪᔪᑦ 2023-ᒥ. ᐊᖕᒋᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᓂᒃ ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ ᐊᑐᓕᖅᑎᑕᐅᓯᒪᔪᖅ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖕᒋᓐᓇᖅᑕᐅᕐᑯᓪᓗᖕᒋᑦ ᐊᖑᑎᓂ ᐊᐅᓚᔅᓴᒃᑎᑕᐅᔪᑦ ᐃᖅᑲᖓᓂ ᐊᒃᑐᐃᓃᑦ ᐃᓱᕐᓂᕐᒧᑦ ᐊᒻᒪ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᓄᑦ ᐱᖕᒐᓱᓄᑦ ᐊᕐᕌᒍᓂᑦ ᓯᕗᓪᓕᖅᐹᒥ ᐊᑐᖅᑕᐅᓕᓚᐅᖅᑎᓪᓗᒋᑦ ᐊᖕᒋᔪᕐᔪᐊᑦ (ᒥᑭᓂᖅᓵᕐᔫᒃ ᐊᖕᒋᔪᕐᔪᐊᓂᑦ ᐅᒥᐊᕐᔪᐊᖅ ᐊᒻᒪ ᐊᖕᒋᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ) ᓴᕕᒃᓴᓂᒃ ᐅᓯᔪᒃᑐ ᐅᒥᐊᕐᔪᐊᑦ ᐅᑭᐊᒃᓵᖓᓂ 2023. ᐊᖕᒋᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖕᒋᓐᓇᕐᓂᕐᒧᑦ ᑲᔪᓯᐊᓚᐅᖅᑐᑦ ᐋᒡᒌᓯ 2023-ᒥ (4-9 ᐋᒡᒌᓯ 2023-ᒥ) ᐱᓂᐊᕐᓂᖃᕈᒪᓪᓗᑎᒃ ᑎᑎᕋᖅᓯᕙᓪᓕᐊᓂᕐᒥᒃ ᐱᑕᖅᐸᒌᖅᑐᓄᑦ ᖃᓄᐃᓕᖓᓂᐅᔪᓄᑦ ᐃᓱᕐᓂᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᑦ ᐊᑐᖅᑕᐅᓯᒋᐊᖅᑳᖅᑎᓐᓇᒋᑦ ᐊᖕᒋᓂᖅᓴᑦ ᓴᕕᒃᓴᓂᒃ ᐅᓯᔫᒃᓴᑦ ᐅᒥᐊᕐᔪᐊᑦ. ᓯᕗᓪᓕᖅᐹᑦ ᐊᖕᒋᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ ᑎᑭᓚᐅᖅᑐᑦ ᕿᖠᒍᐊᓄᑦ ᑐᓚᒃᑕᕐᕕᖕᒧᑦ 29 ᐋᒡᒌᓯ 2023-ᒥ, ᑭᖑᓂᐊᒍᓪᓗ ᐱᔭᕇᖅᑕᐅᓪᓗᑎᒃ 2023-ᒥ ᖃᐅᔨᓴᒃᓴᐅᓕᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ. ᑲᑎᕝᕆᑦ, ᐱᑕᖃᖅᑐᖅ ᑕᓪᓕᒪᓂᒃ ᐊᖕᒋᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ (ᐱᖃᓯᐅᑎᓪᓗᒋᑦ ᒥᑭᓂᖅᓵᕐᔫᒃ ᐊᖕᒋᔪᕐᔪᐊᓂᑦ ᐅᒥᐊᕐᔪᐊᖅ) ᐃᖕᒋᕐᕋᖃᑦᑕᖅᑐᑦ ᕿᓪᒍᐊᓄᑦ ᑐᓚᒃᑕᕐᕕᖕᒧᑦ 2023-ᒥ.

2024-ᒥ ᐃᖅᑲᖓᓂ ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ ᐱᓕᕆᐊᖑᓚᐅᖅᑐᑦ ᕿᒥᕐᕈᔭᐅᕐᑯᓪᓗᒋᑦ ᐊᓱᐃᖅᓯᒪᑐᐃᓐᓇᕆᐊᓖᑦ ᑕᕆᐅᒥ ᐃᓱᕐᓃᑦ ᐊᒻᒪ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᓂ ᐱᑕᖃᕐᕕᐅᔪᓄᑦ ᓇᓗᓇᐃᔭᐅᑏᑦ ᐊᒃᑐᐊᓂᓖᑦ ᐊᒃᑐᐃᓂᐅᑐᐃᓐᓇᕆᐊᓪᓕᖓᓄᑦ ᒥᑭᓂᖅᓵᕐᔫᒃ ᐊᖕᒋᔪᕐᔪᐊᓂᑦ ᐅᒥᐊᕐᔪᐊᓂᑦ ᐊᒻᒪ ᐊᖕᒋᔪᕐᔪᐊᓂ ᐅᒥᐊᕐᔪᐊᓂᑦ ᓴᕕᒃᓴᓂᒃ ᐅᓯᔫᒃᓴᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐊᑐᖅᑐᑦ ᓴᕕᒃᓯᒥᒃ ᐅᓯᓕᖅᓯᐃᕝᕕᐅᔪᒥ. ᑖᒃᑯᐊ ᑭᖑᓪᓕᖅᐹᖑᒥᒃ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐃᓂᐅᓂᐊᖅᑐᑦ ᐅᓂᒃᑳᓂ (FEIS) ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᑦ ᒥᒃᓴᐅᓴᐃᓯᒪᔪᑦ ᐊᒥᐊᒃᑯᓂᒃ ᐊᒃᑐᐃᓂᕐᔪᐊᖅᑕᖅᑲᖕᒋᓐᓂᖓᓂᒃ ᐃᓱᕐᓂᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᑭᓯᐊᓂᓕ ᓇᓗᓇᐃᖅᓯᔪᑦ ᐱᑕᖃᑐᐃᓐᓇᕆᐊᖃᕐᓂᖓᓂᒃ ᒥᑭᑦᑐᒥᒃ ᓄᓇᖓᓂᑐᐊᖅ ᐃᓱᕐᓂᕐᒧᑦ ᐸᕝᕕᓴᐃᓂᕐᓂᒃ ᐊᒃᑐᐊᓂᖃᖅᑐᑦ ᐊᖑᑎᓂᑦ ᐊᐅᓚᔅᓴᒃᑎᑕᐅᔪᒃᑐᑦ ᐃᖅᑲᖓᓂ, ᓂᕆᐅᒋᔭᐅᓪᓗᓂ ᓱᕐᕋᔪᓐᓃᕐᓂᐊᕐᓂᖓᓂᒃ ᐊᑯᓂᐅᔪᒃᑯᑦ, ᐊᒻᒪᓗᑦᑕᐅᖅ ᐱᑕᖃᑐᐃᓐᓇᕆᐊᖃᕐᓂᖓᓂᒃ ᓄᓇᖓᓂᑐᐊᖅ ᐃᒥᒃᑐᒥᒃ ᐱᕙᓪᓕᐊᓂᖅᑖᒃᑰᔫᓗᓂ ᓂᕿᑎᐊᕙᖃᖅᑐᓂᒃ, ᓴᕕᕋᔾᔪᓂᒃ ᐅᙯᓘᓐᓃᑦ ᐅᖅᓯᐊᓕᒃᓴᓂᒃ ᐱᑕᖃᕐᓂᐅᔪᓂᒃ ᐊᒃᑐᐃᑐᐃᓐᓇᕆᐊᓕᖓᓂᒃ ᐃᖅᑲᖓᓂ ᕿᒥᕐᕈᖃᖅᑲᖏᑦᑐᓂᒃ ᐱᑕᖃᕐᕕᐅᔪᓂᒃ. ᑭᖑᓂᐊᒍᑦ ᑖᒃᑯᓇᖓ ᑭᖑᓪᓕᖅᐹᖑᒥᒃ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐃᓂᐅᓂᐊᖅᑐᑦ ᐅᓂᒃᑳᓄᑦ (FEIS), WSP−ᑯᑦ ᐱᓕᕆᐊᖃᖅᓯᒪᔪᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐃᖕᒋᐅᓕᖕᒋᓐᓂ ᐊᒻᒪ ᐅᖑᑎᖕᒋᓐᓂ ᐊᐅᓪᓚᔅᓴᒃᑎᑕᐅᓖᑦ ᐃᖅᑲᖓᓂ ᕿᒥᕐᕈᓂᕐᒥᒃ ᑲᒪᒋᔭᐅᕐᑯᓪᓗᒋᑦ ᐱᓕᕆᐊᒥ ᐊᒃᑐᐃᓂᐅᑐᐃᓐᓇᕆᐊᓖᑦ ᑕᕆᐅᒥ ᑕᖕᒋᓕᖕᓄᑦ ᐊᕙᑎᐅᔪᓄᑦ ᐊᒃᑐᐊᓂᖃᖅᑐᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐱᓕᕆᖃᑦᑕᕐᓂᖕᒋᑦ ᐊᒃᑐᐊᓂᓖᑦ ᐅᓄᖅᓯᒋᐊᕐᓂᖕᒋᓐᓄᑦ ᐊᖕᒋᔫᑕᐅᓂᖅᓴᑦ ᐅᒥᐊᕐᔪᐊᑦ ᐃᖕᒋᕐᕋᖃᑦᑕᖅᑐᑦ (WSP 2023). ᑕᒪᓐᓇ ᕿᒥᕐᕈᓂᕐᒥ ᒥᒃᓴᐅᓭᑕᐅᓯᒪᔪᖅ ᐃᓚᖓᓂᑦ ᐃᖅᑲᖓᓂ ᐊᐅᓚᔅᓴᒃᑎᑕᐅᔪᖃᖃᑦᑖᕐᔪᖕᓂᐊᖅᑐᑦ ᐊᑯᓂᐅᔪᒃᑯᑦ ᑐᓚᕐᕕᐅᕙᒃᑕᒥ ᐊᖕᒋᔪᕐᔪᐊᓄᑦ ᐅᒥᐊᕐᔪᐊᓄᑦ ᓚᓇᐅᑦᑖᖅᑕᐅᓪᓗᑎᒃ ᐃᑎᓂᖃᖅᑐᑦ ᐃᖅᑲᖓᓂ ᐊᐅᓚᔅᓴᒃᑎᑕᐅᔪᑦ ᐊᔾᔨᒌᖃᑦᑕᖏᓪᓗᑎᒃ 5 ᓯᐊᓐᑎᒦᑕᒥᑦ ᑕᐅᕙᓂ ᑐᓚᒃᕕᐅᕙᒃᑐᒥ 50 ᓯᐊᓐᑎᒦᑕᒧᑦ ᓄᓇᖓᓂᑐᐊᕈᖅᑲᓂᖅᓴᖅ ᖃᓂᒋᔭᓂ ᓴᕕᒃᓴᓂᒃ ᐅᓯᓕᖅᓯᐃᕝᕕᐅᔪᒥ. 2024-ᒥ ᐃᓱᕐᓂᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓂᒃ ᕿᒥᕐᕈᓃᑦ ᕿᒥᕐᕈᓯᒪᔪᑦ ᐃᓱᕐᓂᐅᑉ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᑎᑭᓪᓗᒍ 5 ᓯᐊᓐᑎᒦᑕᑦ ᐃᓱᕐᓂᕐᒥ ᐃᓗᐊᓄᑦ ᒪᓕᑐᐃᓐᓇᖅᑐᑦ ᑖᒃᑯᓄᖓ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖕᒋᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓄᑦ (MEEMP) ᐊᒻᒪ ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᐊᖕᒋᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ ᖃᐅᔨᓴᕐᕕᖕᒋᓐᓂ 2023-ᒥ. ᑕᒪᓐᓇ ᐃᓱᕐᓃᑦ ᐃᓗᐊᓄᑎᒋᐅᓂᖓ ᐊᒃᑐᐊᓂᖃᓪᓚᕆᖕᒥᔪᖅ ᕿᒥᕐᕈᔭᐅᓂᖕᒋᓐᓄᑦ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᖃᕐᕕᐅᔪᓂ.

2024-ᒥ, ᑭᒡᓚᖅᑐᐃᔪᖅ ᐊᕐᕌᒍ 1 ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖕᒋᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ, ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᓂ ᐱᑕᖃᕐᕕᐅᔪᓂᒃ ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓃᑦ ᑲᑎᑕᐅᓚᐅᖅᑐᑦ ᐊᕐᕕᓂᓖᑦ ᒪᕐᕉᓪᓗ ᐊᖕᒋᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᕐᕕᖕᒋᓐᓂ ᑲᒪᒋᔭᐅᓪᓗᑎᒃ ᑕᐅᕙᓂ, ᐊᒻᒪ ᓱᕈᔾᔭᐃᖅᑕᐅᓪᓗᑎᒃ ᖃᐅᔨᓴᕐᕕᖕᒥ ᖃᐅᔨᓴᖅᑕᐅᕐᑯᓪᓗᒋᑦ. ᐱᕈᖅᑐᓂ ᐆᒪᔪᕋᓛᑦ ᑭᖑᓂᐊᒍᑦ ᓇᓗᓇᐃᖅᑕᐅᓚᐅᖅᑐᑦ ᐅᓄᙱᓛᖑᓪᓗᑎᒃ ᐆᒪᔪᕈᔪᐃᑦ ᖃᓄᑎᒋᐅᓂᖕᒋᓐᓄᑦ ᐊᒻᒪ ᓈᓴᖅᑕᐅᓪᓗᑎᒃ ᐱᓕᕆᓕᒪᔪᒧᑦ ᐃᒪᕐᒥᐅᑕᓂᒃ ᐃᖅᑲᕐᒥᐅᑕᓂᒃ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᕙᖕᓂᖕᒋᓐᓄᑦ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᐱᔾᔪᑎᖃᐅᑎᓄᑦ ᓕᒥᑎᑦᑯᓐᓂ (ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᓂᖕᒋᓐᓄᑦ ᖃᐅᔨᓴᕐᕕᒃ). ᐅᔾᔨᕆᔭᐅᓯᒪᓪᓗᑎᒃ ᑭᖑᓂᖕᒑᑎᓐᓂ ᐊᕐᕌᒍᔪᓂ, ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᖃᕐᕕᐅᔪᓂ ᐊᖕᒋᔪᕐᔪᐊᓄᑦ ᐅᒥᐊᕐᔪᐊᓄᑦ ᖃᐅᔨᓴᕐᕖᑦ ᐱᑕᖃᕐᕕᐅᓪᓗᐊᑕᓚᐅᖅᑐᑦ ᖁᐱᕐᕈᑯᑖᓂᒃ. ᐊᒥᖅᑰᓂᖅᓴᑦ ᐃᓚᖕᒋᑦ ᑭᖑᐃᑦ, ᐱᓗᐊᖅᑐᒥᒃ ᑭᖑᕋᓛᑦ ᐊᒻᒪ ᑭᖑᐃᑦ, ᑕᑯᔭᐅᒃᑲᓐᓚᐅᖅᑐᑦ ᐃᓚᖕᒋᓐᓂ ᐱᓇᖕᓇᖕᒑᖕᓂ ᑐᑭᓕᐊᖅᑐᓂ ᖃᐅᔨᓴᕐᕕᐅᔪᒥ, ᐃᒪᐃᒻᒪᓪᓗ ᐅᕕᓗᐃᑦ ᐱᑕᖃᕐᓂᖅᓴᐅᓚᐅᖅᓱᑎᒃ ᐊᒥᖅᑰᓂᖅᓴᐅᓪᓗᑎᒃ ᐃᓚᖕᒋᓐᓂ ᖃᐅᔨᓴᕐᕕᓂ ᑕᐅᕝᕙᓐᖏᑦᑐᑦ ᑐᑭᓕᕇᓂ. ᓈᓴᐅᑎᑎᒍᑦ ᕿᒥᕐᕈᓃᑦ ᑐᕌᖃᖅᓯᒪᔪᑦ ᑎᓴᒪᓂᒃ ᐱᓪᓗᐊᑕᓂᒃ ᐃᖅᑲᖓᓂ ᑯᒪᕈᕐᓂ ᐃᓱᓕᔾᔪᑕᐅᔪᓂ - ᕿᒥᕐᓗᖃᖅᑲᖕᒋᑦᑐᑦ ᐱᑕᖃᐅᕐᓂᖕᒋᑦ, ᐊᒥᒋᓂᖕᒋᑦ, ᐊᔾᔨᒌᖕᒋᑦᑕᕐᓂᖕᒋᑦ ᐊᒻᒪ ᓇᓕᒧᒌᖕᓂᖕᒋᑦ - ᒪᓕᑐᐃᓐᓇᖅᑐᑦ ᑭᖑᓂᖕᒑᑎᓐᓂ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖕᒋᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓄᑦ (MEEMP) ᐊᕐᕌᒎᓯᒪᔪᓄᑦ.

2024-ᒥ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᑦ ᖃᐅᔨᔭᐅᔪᑦ ᓯᓕ ᐃᓗᐊᓃᑦᑐᑦ ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᓄᑦ ᑕᐃᑲᓂ ᑭᖑᓪᓕᖅᐹᖑᒥᒃ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐃᓂᐅᓂᐊᖅᑐᑦ ᐅᓂᒃᑳᓄᑦ (FEIS) ᐊᒻᒪ ᑭᖑᓂᐊᒍᑦ ᐅᐃᒍᕐᓂ, ᓇᓚᐅᑦᑖᖅᓯᒪᔪᑦ ᐱᑕᖃᐅᓇᓱᐊᖅᑲᕐᓂᖕᒋᓐᓄᑦ ᓄᓇᖓᓂ ᐃᓱᕐᓃᑦ

ᐸᒡᕕᓴᒃᑕᐅᓂᖏᓐᓄᑦ ᐊᒃᑐᐊᓂᓖᑦ ᐊᖑᑎᓂᑦ ᐊᐅᓚᔾᔭᒃᑎᑕᐅᔪᑦ ᐃᖅᑲᖓᓃᑦᑐᑦ ᐊᒻᒪ ᒫᓐᓇᓚᐅᖅ ᐊᒃᑐᐃᓃᑦ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛ ᖃᕐᕕᐅᔪᓂᑦ ᓇᑐᓇᐃᒃᑯᑕᓄᑦ. 2024-ᒥ ᐊᕐᕕᓂᓖᑦ ᒪᕐᕉᒡᓗ ᐊᖏᔪᕐᔪᐊᓄᑦ ᐅᒥᐊᕐᔪᐊᓄᑦ ᖃᐅᔨᓴᕐᕖᑦ ᐃᑲᔪᖅᑐᐃᖏᓐᓇᓚᐅᖅᑐᑦ ᐊᔾᔨᕐᙵᕆᕉᔮᖅᑐᓄᑦ ᐃᖅᑲᖓᓂ ᕿᒥᕐᕈᖅᗩᖏᑦᑐᓂ ᐱᑕᖅᕐᕕᐅᔪᓂ. ᑕᒪᐃᓐᓄᑦ ᐱᑕᖃᐅᕐᓂᖏᑦ ᐊᒻᒪ ᐱᑕᖃᑦᑎᐊᕐᓂᖏᑦ ᐊᔾᔨᕐᙵᖏᓐᓂᖃᕐᔪᐊᓚᐅᙱᑦᑐᑦ ᑖᒃᑯᓇᓂ ᐊᕐᕈᖓ 1 (2024) ᐊᒻᒪ ᐊᑐᖅᑕᐅᕙᕌᖅᑐᓂ ᒪᓕᒋᐊᓕᖕᓂ 2023-ᒥ; ᑭᓯᐊᓂᓕ, ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛ ᖃᕐᕕᐅᔪᑦ ᓴᖅᑮᔭᖅᑎᑦᑏᓐᓇᓚᐅᖅᑐᑦ ᐊᔾᔨᒋᒃᑕᖃᑦᑕᙱᓐᓂᖏᓐᓂᒃ ᖃᐅᔨᓴᕐᕕᐅᔪᓂ 2024-ᒥ ᐅᔾᔨᕆᔭᐅᓪᓚᕆᒃᓯᒪᔪᑦ ᐅᓄᕈᓐᓃᖅᐹᓪᓕᕐᓂᖏᓐᓄᑦ ᐊᒥᖀᓂᖏᑦ ᐊᒻᒪ ᐱᑕᖃᑦᑎᐊᕐᓂᖏᓐᓄᑦ 2023-ᒥ ᐊᒻᒪ 2024-ᒥ ᖃᐅᔨᓴᕐᕕᖕᓂ ᖃᓂᒋᔭᖏᓐᓂ ᓴᕕᒃᓴᓄᑦ ᐅᓯᓕᖅᓯᐃᕝᕕᐅᔪᓂ. ᑕᒪᒃᑯᐊ ᐅᔾᔨᕆᔭᐅᔪᑦ ᐃᓚᖓᒍᑦ ᐃᑲᔪᖅᑐᖅᑕᐅᔪᑦ ᐊᓯᔾᔨᐅᑎᓄᑦ ᐃᓚᖏᓐᓄᑦ ᒥᑭᔪᕋᓛᑦ ᐃᓗᓕᖏᓐᓄᑦ ᑕᐅᕙᓂ ᐊᑯᓂᐅᔪᒃᑯᑦ ᐊᒻᒪᓗᑦᑕᐅᖅ ᑕᐃᒪᐃᓕᖓᓂᐅᑐᐃᓐᓇᖅᐸᒃᑐᑦ ᐊᔾᔨᒋᒃᑕᑦᑕᙱᑦᑐᑦ ᑕᑯᔭᐅᓯᒪᔪᑦ ᑕᒪᒃᑯᓇᓂ ᐃᖅᑲᖓᓂ ᐱᑕᖅᕐᕕᐅᔪᓂ. ᐊᖑᑎᓂᑦ ᐊᐅᓚᔾᔭᒃᑎᑕᐅᔪᓄᑦ ᐊᒃᑐᐃᓃᑦ ᑭᖑᓂᖓᑦᑎᓐᓂ ᐅᔾᔨᕆᔭᐅᓚᐅᖅᑐᑦ 2020-ᒥ ᑕᐃᑲᓂ ᑲᐅᔨᓴᕐᕕᖕᒥ SW-2 ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᐊᖑᑎᓂᑦ ᐊᐅᓚᔾᔭᒃᑎᑕᐅᔪᑦ ᐃᖅᑲᖓᓂ ᒥᑭᓐᓂᖅᓴᓂ ᓴᕕᒃᓴᓂᒃ ᐅᓯᔪᒃᓴᓂᒃ ᐅᒥᐊᕐᔪᐊᓂᑦ ᐊᒻᒪ ᓱᑲᐅᓂᑦ. ᑭᖑᓂᐊᒍᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐊᕐᕌᒍᓂ ᓇᑐᓇᐃᖅᓯᔪᑦ ᑖᒃᑯᐊ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᑦ ᐱᑕᖅᕕᖏᑦ ᑕᐃᑲᓂ ᖃᐅᔨᓴᕐᕕᖕᒥ ᑭᖑᓂᐊᒍᑦ ᐅᑎᖅᐸᓪᓕᐊᓕᓚᐅᖅᑐᑦ, ᐊᒻᒪ ᑕᒪᓐᓇ ᐊᒃᑐᐃᓂᖅ ᒫᓐᓇᓚᐅᒃᓪᓗᓂ ᐊᒻᒪ ᓄᓇᖓᓂᑐᐊᖑᓪᓗᓂ.

ᖃᐅᔨᔭᐅᔪᑦ 2024-ᒥ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᓂᒃ ᕿᒥᕐᕈᓃᑦ ᐱᒋᐊᖅᑎᑦᑎᓯᒪᙱᑦᑐ ᑕᒪᒃᑯᓂᖓ ᐱᒋᐊᖅᑎᑦᑎᓂᖅ, ᖃᓄᐃᓕᐅᕐᓂᖅ, ᑲᒪᒋᔭᐅᔾᔪᑎᓄᑦ ᐸᕐᓇᐅᑎᓄᑦ (TARP) 'ᐊᒃᐸᓯᒃᑐᑦ ᐅᓗᕆᐊᓇᕈᓐᓇᕐᓂᖏᑦ' ᖃᓄᐃᓪᓕᔪᖃᖅᒌᖅᑎᓐᓇᒍ ᑭᒡᓕᐅᔪᑦ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ ᐃᖅᑲᖓᓂ ᖃᓄᐃᑉᐸᓪᓕᐊᓂᕐᒧᑦ ᓇᓗᓇᐃᕈᑏᑦ ᐊᖏᔪᕐᔪᐊᖑᓯᒪᙱᓐᓂᖏᓐᓄᑦ ᐊᔾᔨᕐᙵᖏᓐᓂᖏᑦ ᐊᕐᕋᒍ 1-ᒥ (2024) ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᑕᑯᓪᓗᒋᑦ ᐱᑕᖅᐸᕆᖅᑐᓄᑦ ᖃᓄᐃᓕᖓᓂᐅᔪᓂᑦ 2023-ᒥ ᐊᒻᒪ ᖃᓄᑐᐃᓐᓇᖅ ᑕᑯᒃᓴᐅᔪᑎᒍᑦ ᐅᓄᕈᓐᓃᖅᐊᓪᓕᐊᓂᖏᑦ ᐃᖅᑲᖓᓂ ᖃᓄᐃᑉᐸᓪᓕᐊᓂᕐᓄᑦ ᓇᓗᓇᐃᒃᑯᑕᑦ ᐃᒪᐃᖅᑰᕐᓪᓗᑎᒃ ᐃᓗᐊᓃᕝᕙᑎᒃ ᑐᓚᒃᑕᕐᕕᖕᒧᑦ-ᐊᒃᑐᐊᔪᑦ ᐊᒃᑐᐃᓃᑦ ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᑦ ᑭᖑᓪᓕᖅᐹᒥᒃ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐃᓂᐅᓂᐊᖅᑐᑦ ᐅᓂᒃᑳᓄᑦ (FEIS) ᐊᒻᒪ ᑭᖑᓂᐊᒍᑦ ᐅᐃᒍᓂᑦ.

ᐱᔾᔪᑎᒋᓪᓗᒋᑦ ᐊᑐᖅᑕᐅᓂᖏᓐᓇᕐᓂᐊᖅᑐᒃᓴᐅᓂᖏᑦ ᐊᖏᓂᖅᓴᐅᔪᑦ ᓴᕕᒃᓴᓂᒃ ᐅᓯᔪᒃᓴᑦ ᐅᒥᐊᕐᔪᐊᑦ (ᒥᑭᓐᓂᖅᓵᕐᔪᒃ ᐊᖏᔪᕐᔪᐊᓂᑦ ᐅᒥᐊᕐᔪᐊᖅ ᐊᒻᒪ ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᑦ) ᕿᙱᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ, ᐸᕙᓖᓐᑯᑦ ᐊᖏᖅᓯᒪᓪᓚᕆᒃᑐᑦ ᐊᑯᓂᐅᓐᓂᕆᓄᑦ ᐊᕐᕌᒍᑕᓖᑦ ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓂᕐᓄᑦ ᐊᖏᔪᕐᔪᐊᓄᑦ ᐅᒥᐊᕐᔪᐊᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᖃᐅᔨᓴᕐᕕᖕᓂ ᐅᓄᙳᕆᓛᖑᓗᑎᒃ ᐊᕐᕌᒍᑦ ᐱᖓᓱᑦ ᑭᖑᓂᐊᒍᑦ ᓯᕗᓪᓕᖅᐹᒥᒃ ᐊᑐᖅᑕᐅᓕᕐᓂᖏᓐᓄᑦ ᐊᖏᓂᖅᓴᐅᔪᑦ ᓴᕕᒃᓴᓂᒃ ᐅᓯᔪᒃᓴᑦ ᓇᓗᓇᐃᔭᖅᑕᐅᖁᓪᓗᒋᑦ ᐱᓕᕆᐊᒧᑦ-ᐊᒃᑐᐊᔪᑦ ᐊᒃᑐᐃᓃᑦ ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᐅᒥᐊᕐᔪᐊᑦ ᖃᓄᐃᑦᑑᓂᖏᓐᓄᑦ. ᓇᓗᓇᐃᖅᑕᐅᓯᒪᓪᓗᑎᒃ ᐃᓱᕐᓂᖅ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᐃᓛᒃᑯᖅᑕᖅᑐᑦ 3.0-ᒥ, ᑐᑭᓯᔭᐅᑎᐊᒃᑲᓐᓂᕐᑯᓪᓗᒋᑦ ᐊᖑᓂᑎ ᐊᐅᓚᔾᔭᒃᑎᑕᐅᕙᒃᑐᑦ ᐃᖅᑲᖓᓂ ᐊᒃᑐᐃᓃᑦ ᓯᓚᑖᓂ ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᑦ ᑭᒡᓕᐅᔪᖅ ᐊᒃᑐᖅᑕᐅᔪᓄᑦ (ZOI) ᐊᖏᔪᕐᔪᐊᓄᑦ ᐅᒥᐊᕐᔪᐊᓄᑦ ᑕᑯᓗᒋᑦ ᐊᒃᑐᐃᓃᑦ ᑕᐃᒪᐃᑐᐃᓐᓇᖅᐸᒃᑐᑦ ᓯᒃᔭᖓᓂ ᐱᕙᓪᓕᐊᓂᐅᕙᒃᑐᑦ, ᐃᓱᒪᒋᖃᓯᐅᔾᔨᓃᑦ ᐅᖓᕙᕆᐊᖅᑕᐅᓗᑎᒃ 2025-ᒥ ᐅᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᓂᒃ ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ ᑕᐅᕝᕗᓇ ᐱᓇᖕᓇᖖᒑᖓᒍᑦ ᑐᑭᓕᕇᑦ ᐱᖃᓯᐅᔾᔨᓯᒪᓗᑎᒃ SW-5 ᐊᒻᒪ SW-6, ᑲᑎᕆᓪᓗᒋᑦ ᕿᓖᑦ ᖃᐅᔨᓴᕐᕖᑦ ᐃᓱᕐᓂᐅᕐ ᖃᓄᐃᑦᑑᓂᖏᓐᓄᑦ ᐊᒻᒪ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᓂᒃ ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓃᑦ.

ᑕᒪᐃᓐᓅᖓᔪᑦ, ᖃᐅᔨᔭᐅᔪᑦ ᓇᓗᓇᐃᖅᓯᔪᑦ ᐃᒪᓐᓇ, ᐅᓪᓗᒥᒧᑦ, ᑕᕆᐅᒥ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᑦ ᖃᐅᔨᔭᐅᔪᑦ ᓱᓕ ᐃᓗᐊᓃᑦᑐᑦ ᑭᖑᓪᓕᖅᐹᒥᒃ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐃᓂᐅᓂᐊᖅᑐᑦ ᐅᓂᒃᑳᓂ (FEIS) ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᓂ ᐊᒻᒪ ᑭᖑᓂᐊᒍᑦ ᐅᐃᒍᓂ, ᒥᒃᓴᐅᓴᐃᓯᒪᔪᑦ ᐊᖏᔪᒥᒃ ᐊᒥᐊᒃᑯᓂᒃ ᐊᒃᑐᐃᓂᕐᓂᒃ ᐃᓱᕐᓂᐅᕐ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᑭᓯᐊᓂᓕ ᓇᓗᓇᐃᖅᓯᓪᓗᑎᒃ ᐱᑕᖃᕈᓐᓇᖅᑲᐅᕐᓂᖓᓂᒃ ᒥᑭᑦᑐᒥ ᓄᓇᖓᓂ ᐃᓱᕐᓃᑦ ᐸᒡᕕᓴᒃᑕᐅᓂᖏᓐᓄᑦ ᐊᒃᑐᐊᓂᓖᑦ ᐊᖑᑎᓂᑦ ᐊᐅᓚᔾᔭᒃᑎᑕᐅᕙᒃᑐᑦ, ᓂᕆᐅᒋᔭᐅᔪᑦ ᓱᕋᐃᓐᓃᕐᓂᐊᕐᓂᖏᓐᓂᒃ ᐊᑯᓂᐅᔪᒃᑯᑦ. ᑕᒪᓐᓇ ᐱᒋᐊᖅᑎᑦᑎᓂᖅ, ᖃᓄᐃᓕᐅᕐᓂᖅ, ᑲᒪᒋᔭᐅᔾᔪᑎᓄᑦ ᐸᕐᓇᐅᑎᓄᑦ (TARP) 'ᐊᒃᐸᓯᒃᑐᑦ ᐅᓗᕆᐊᓇᕈᓐᓇᕐᓂᖏᑦ' ᖃᓄᐃᓪᓕᔪᖃᖅᒌᖅᑎᓐᓇᒍ ᑭᒡᓕᐅᔪᑦ ᐱᒋᐊᖅᑎᑕᐅᓯᒪᙱᑦᑐᑦ ᐊᒻᒪ ᐊᖏᔪᕐᔪᐊᑦ ᐅᒥᐊᕐᔪᐊᓂᒃ ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᐱᓕᕆᓃᑦ ᑲᔪᓯᓂᐊᖅᑐᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓗᑎᒃ ᐊᖑᑎᓂᑦ ᐊᐅᓚᔾᔭᒃᑎᑕᐅᕙᒃᑐᓂᑦ ᐊᒃᑐᐃᓂᕐᓂᒃ ᐃᓱᕐᓂᕐᒧᑦ ᐊᒻᒪ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᓄᑦ.

ᐃᖅᑲᖓ, ᕿᖅᑯᐊᑦ, ᐊᒻᒪ ᐃᖅᑲᖓᓂ ᐱᕈᖅᑐᑦ (ᐃᓛᒃᑯᖅᑕᖅᑐᑦ 5.0)

ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓃᑦ ᐃᖅᑲᖓᓂ, ᕿᖅᑯᐊᓂᒃ, ᐊᒻᒪ ᐃᖅᑲᖓᓂ ᐱᕈᖅᑐᓂᒃ ᓈᒻᒪᒃᓯᑎᑦᑎᓯᒪᔪᑦ ᐅᔾᔪᕐᓂᐊᕈᓇᐅᑎᓂ ᒪᓕᒃᑕᐅᔪᓇᐊᓕᒃ ᓈᓴᐅᑖ 99(ᐃ) ᐊᒻᒪ (ᑎ) ᐊᒻᒪ ᐊᒃᑐᐊᓂᖃᖅᑯᓂ ᐅᔾᔪᕐᓂᐊᕈᓇᐅᑎᒧᑦ ᒪᓕᒃᑕᐅᔪᓇᐊᓕᒃ ᓈᓴᐅᑎᓖᑦ 76, 83(ᐃ), 84 ᐊᒻᒪ 87. ᕿᒥᕐᕈᔭᐅᕐᑯᓪᓗᒋᑦ ᐱᑕᖃᑐᐃᓐᓇᓂᐊᓖᑦ ᐱᓕᕆᐊᒧᑦ-ᐊᒃᑐᐊᔪᑦ ᐊᒃᑐᐃᓃᑦ ᐃᖅᑲᖓᓄᑦ, ᕿᖅᑯᐊᓄᑦ, ᐊᒻᒪ ᐃᖅᑲᖓᓂ ᐱᕈᖅᑐᓄᑦ, ᐊᑐᖅᑕᐅᓚᐅᖅᑐᑦ ᐆᒪᓂ ᑕᑯᔭᐅᔪᓐᓇᖅᑐᑦ ᐊᖏᖃᑎᑦᒍᑕᐅᓯᒪᔪᑦ ᐱᓕᕆᔾᔪᑏᑦ ᐊᑐᖅᑕᐅᓯᒪᔪᑦ ᑖᒃᑯᓈᓪᓚᑦ ᐊᒃᑲᐅᒪᓲᓂᑦ-ᐊᑐᖅᑐᑎᒃ ᑭᒡᓕᓯᓂᐊᖅᑏᑦ ᐊᖅᑲᐅᒪᔩᑦ ᖃᐅᔨᓴᕐᑯᓪᓗᒋᑦ ᕿᖅᑯᐊᓂᒃ, ᕿᒥᕐᓗᖅᗩᖏᑦᑐᓂᒃ, ᐊᒻᒪ ᐃᖃᓗᐃᑦ ᖃᓄᐃᑦᑑᓂᖏᑦ ᐆᒪᔪᑦ ᐊᔾᔨᕐᙵᕐᐊᕐᔪᒃᑐᑦ

ᐊᒻᒪ ᑎᑎᕋᖅᑕᐅᓗᑎᒃ ᓇᔪᒐᐃᑦ ᖃᓄᐃᑦᑑᓂᖏᓐᓂᑦ ᐊᔾᔨᒌᙱᒐᓚᒃᑐᑦ ᖃᐅᔨᓴᕐᕕᐅᔪᓂ ᑭᐸᙵᓐᓂᒃᑐᓂ ᐋᖅᑭᒃᕕᒃᓯᒪᔪᑦ ᐃᖅᑲᖓᓂ ᑕᒪᐃᓐᓂᒃ ᓴᖅᑭᔮᖅᑐᒥ ᐊᒻᒪ ᖃᐅᔾᔨᕆᐊᕐᕕᐅᔪᓐᓇᖅᑐᒥ ᕿᙳᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ. ᖃᐅᔾᔭᐅᒃᓴᐃᑦ ᐱᔪᐅᔪᓐᓇᕌᖓᒥᒃ ᐱᔭᐅᕝᑕᓚᐅᖅᑐᑦ ᐊᒻᒪ ᓇᒃᓯᐅᑦᔭᐅᓪᓗᑎᒃ ᐃᓕᓴᕆᔭᐅᓯᒪᔪᓄᑦ (ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᐱᔾᑎᕋᐅᑎᓄᑦ ᓕᒥᑎᑦᑯᓐᓄᑦ) ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᓇᓗᓇᐃᔭᖅᑕᐅᓂᖏᓐᓄᑦ. ᓇᓗᓇᐃᕈᑏᑦ ᐱᖃᓯᐅᔾᔭᔪᑦ ᐳᓴᓐᓯᒥᒃ (%) ᐱᑕᖃᕐᕕᐅᔪᓄᑦ ᐃᖅᑲᖓᑕ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ, ᐃᖅᑲᖓᓂ ᕿᖅᑯᐊᑦ, ᐊᒻᒪ ᓅᑦᑐᓐᓇᙱᑦᑐᑦ ᐃᖅᑲᖓᓂ ᐱᕈᖅᑐᑦ, ᐱᑕᖃᐅᕐᓂᖏᑦ (ᓈᓴᖅᑕᐅᓯᒪᓂᖏᑦ) ᓅᑦᑐᓐᓇᖅᑐᑦ ᐃᕈᖅᑐᑦ, ᐊᒻᒪ ᐊᔾᔨᒌᙱᑭᓘᔭᕐᓂᖏᓐᓄᑦ ᓇᓗᓇᐃᕈᑏᑦ (ᓱᕐᓗ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᐱᐅᓂᖏᑦ ᐊᒻᒪ ᓯᒻᓴᓐ ᐊᔾᔨᒌᙱᑭᓘᔭᖅᑐᓄᑦ ᓇᓗᓇᐃᔭᖑᑎᖓ [SDI]) ᕿᖅᑯᐊᓄᑦ ᐱᕈᖅᑐᓄᓪᓗ.

2024-ᒥ, ᐃᖅᑲᖓᑕ ᐊᕙᑎᖓ ᓴᖅᑭᔮᖅᑐᓄᑦ ᐊᒻᒪ ᖃᐅᔨᕆᐊᕐᕕᐅᔪᓐᓇᖅᑐᓄᑦ ᐱᑕᖃᕐᕕᐅᓪᓗᐊᑕᓚᐅᖅᑐᑦ ᐊᕿᑦᑐᒥᒃ ᐃᖅᑲᖓᓂ, ᒪᕋᕈᔪᓪᓗᐊᑕᖅ ᐊᒻᒪ ᓯᐅᕋᖅ, ᒪᓕᑐᐃᓐᓇᖅᑐᑦ ᐊᕐᕌᒍᓯᒪᔪᓂ. ᐊᕐᕌᒍᒥᑦ ᐊᕐᕌᒍᒧᑦ ᐊᔾᔨᒌᙱᖃᑦᑕᖅᑐᑦ ᐅᔾᔨᕆᔭᐅᓯᒪᔪᑦ ᐃᓚᖓᓂ ᐃᖅᑲᖓᓂ ᐊᕿᑦᑑᔪᖅ ᑭᓯᐊᓂᓕ ᒪᕿᑦᑕᖅᓗᑎᒃ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᓐᓂᑦ ᕿᒥᕈᓃᑦ ᖃᐅᔮᐅᕕᐅᓚᐅᙱᑦᑐᑦ ᐊᔾᔨᒌᙱᓐᓂᖏᓐᓂᒃ ᑖᒃᑯᓇᓂ 2024-ᐊᒻᒪ ᐊᓯᖏᓐᓄᑦ ᓇᓕᐊᙵᑐᐃᓐᓇᖅ ᐊᕐᕌᒍᓯᒪᔪᓄᑦ. ᐊᔾᔨᒌᙱᓐᓂᖅᑕᕐᔪᐊᙱᑦᑐᑦ ᐊᕿᑦᑐᓂ ᐃᖅᑲᖓᓂ ᐊᒻᒪ ᓴᖅᑭᔮᖅᑐᓂ ᖃᐅᔨᕆᐊᕐᕕᐅᔪᓐᓇᖅᑐᒥᓗ ᐃᓂᒥ 2024-ᒥ. ᐊᔾᔨᐸᓗᒃᑭᑦ ᕿᖅᑯᐊᓂ ᐊᒻᒪ ᐆᒪᔪᕋᓛᓂ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᖃᓄᐃᓕᖓᓂᖏᑦ ᐅᔾᔨᕆᔭᐅᓚᐅᖅᑐᑦ 2024-ᒥ ᓱᕐᓗ ᑭᖑᓂᖓᓂᑦ ᐊᕐᕌᒍᓯᒪᔪᑦ (2021-2023). ᐱᑕᖃᕐᕕᐅᔪᓂ ᓇᓗᓇᐃᒃᑯᑦ (ᐳᓴᓐᑎᑦ ᐱᑕᖃᕐᓂᐅᔪᑦ ᐱᑕᖃᐅᕐᕕᐅᔪᑦ, ᐆᒪᔪᑉ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᐱᑕᖃᑦᑎᐊᕐᓂᖏᑦ, ᐊᒻᒪᓗ SDI) ᐊᔾᔨᒌᒃᑕᙱᑦᑐᑦ ᑖᒃᑯᓇᓂ ᑭᐸᙵᓐᓂᒃᑐᓂ ᐃᖅᑲᖓᓃᑦᑐᓂ, ᑭᓯᐊᓂᓕ ᐊᔾᔨᒌᙱᓐᓂᖃᕐᔪᐊᙱᑦᑐᑦ ᑖᒃᑯᓇᓂ ᐱᑕᖃᕐᕕᐅᔪᓂ ᐊᒻᒪ ᖃᐅᔨᕆᐊᕐᕕᐅᔪᓐᓇᖅᑐᓂ 2024-ᒥ ᓇᓕᐊᙵᑐᐃᓐᓇᖅ ᐱᑕᖃᕐᕕᐅᔪᓄᑦ ᓇᓗᓇᐃᕈᑎᓄᑦ, ᐊᒻᒪ ᑕᑯᖃᑦᑕᐅᑎᖃᑦᑕᕐᓂᖏᑦ ᐃᓂᒥ ᐊᕐᕌᒍᒧᑦ ᐊᖏᕝᔨᒪᙱᑦᑐᑦ ᐱᑕᖃᐅᕐᓂᓪᓚᓇᖓᓄᑦ ᓅᑦᑐᓐᓇᙱᑦᑐᓄᑦ ᐆᒪᔪᕋᓛᓄᑦ. ᐃᑎᓂᖓ ᐅᕙᓘᓐᓃᑦ ᐃᓚᖓ ᐊᕿᑦᑐᖅ ᐃᖅᑲᖓᓂ ᑭᐸᙵᓐᓂᒃᑐᓂ ᐊᔾᔨᒋᒃᑕᒃᑎᒃᑖᙱᓚᓐᓂᒃᓯᒪᔪᖅ ᐆᒪᔪᕋᓛᓄᑦ ᓇᓗᓇᐃᕈᑎᓄᑦ ᑭᓯᐊᓂᓕ ᐊᔾᔨᒌᙱᕐᔪᐊᖅᓯᒪᙱᑕᖏᑦ ᕿᖅᑯᐊᓄᑦ ᓇᓗᓇᐃᒃᑯᑕᑦ. ᐊᒃᑐᐃᓐᓂᑦ ᐊᕐᕌᒍᐊᓂ ᐊᖏᕚᓯᒪᔪᑦ ᕿᖅᑯᐊᓄᑦ ᐊᒻᒪ ᐆᒪᔪᕋᓛᓄᑦ ᓅᑦᑐᓐᓇᙱᑦᑐᓄᑦ ᓇᓗᓇᐃᒃᑯᑕᕐᓄᑦ. ᐊᕕᓂᓛᑦ ᒪᕐᕉᓪᓗ ᐊᕕᓂᓛᑦ ᐱᖓᓱᓂ ᐊᔾᔨᒌᙱᓐᓂᖅᑕᕐᔪᐊᖅᓯᒪᔪᑦ (ᑖᒃᑯᓇᓂ 54-ᓂ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᓐᓄᑦ ᕿᒥᕈᓘᓯᑦ 2024-ᒥ ᑖᒃᑯᓄᖓ ᐊᕐᕌᒍᓯᒪᔪᓄᑦ, 46-ᖑᔪᑦ ᓴᖅᑭᔮᖅᑎᑦᑎᓯᒪᔪᑦ ᐊᓯᔾᔨᕐᓂᖅᑕᕐᔪᐊᖏᓐᓂᖓᓂᒃ) ᐊᒻᒪ ᖁᕝᕙᓯᕐᓂᖅᓴᐃᑦ ᓈᓴᐅᑏᑦ ᐱᑕᖃᕐᓂᕐᓄᑦ ᓇᓗᓇᐃᒃᑯᑦ 2024-ᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᓐᓄᑦ ᐊᕐᕌᒍᓄᑦ 2021-ᒧᑦ ᐅᕙᓘᓐᓃᑦ 2022-ᒧᑦ ᐊᒻᒪ ᐊᑕᐅᓯᑐᐊᖅ ᓇᓗᓇᐃᖅᓯᓯᒪᓪᓗᓂ ᐊᒃᐸᓯᕐᓂᖅᓴᒥᒃ ᓈᓴᐅᑎᖃᕐᓂᕐᓚᓂᒃ 2024-ᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᑕᑯᓪᓗᒋᑦ 2021-ᒥ. ᐊᔾᔨᒌᙱᓐᓂᕐᔪᐊᖅᑕᖅᙱᑦᑐᖅ ᑖᒃᑯᓇᓂ 2023 ᐊᒻᒪ 2024-ᒥ ᐱᑕᖃᕐᕕᐅᔪᑦ ᓇᓗᓇᐃᒃᑯᑕᖏᓐᓂ. ᐳᓴᓐᑎᒃᑯᑦ ᐱᑕᖃᐅᕐᓂᖏᑦ ᐃᖅᑯᐊᑦ 69%-ᒥᒃ ᖁᕝᕙᓯᕐᓂᖅᓴᐅᓚᐅᖅᑐᑦ ᐱᑕᖃᕐᕕᐅᔪᒥ ᐃᓂᒥ ᐊᒻᒪ 91% ᖁᕝᕙᓯᕐᓂᖅᓴᐃᑦ ᖃᐅᔨᐊᕐᕕᐅᔪᓐᓇᖅᑐᒥ ᐃᓂᒥ 2024-ᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᑕᑯᓪᓗᒋᑦ 2021-ᒥ, ᐊᒻᒪ 59%-ᒥᒃ ᖁᕝᕙᓯᕐᓂᖅᓴᐅᔪᑦ ᖃᐅᔨᕆᐊᕐᕕᐅᔪᓐᓇᖅᑐᑦ ᐃᓃᑦ 2024-ᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᑕᑯᓪᓗᒋᑦ 2022-ᒧᑦ. ᕿᖅᑯᐊᑦ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᐱᐅᓂᖏᑦ ᖁᕝᕙᓯᕐᓂᖅᓴᕐᔪᐊᖑᓯᒪᔪᑦ ᑕᒪᐃᓐᓂᒃ ᐱᑕᖃᕐᕕᐅᔪᓂ (51%) ᐊᒻᒪ ᖃᐅᔨᕆᐊᕐᕕᐅᔪᓐᓇᖅᑐᒥ (67%) ᐃᓂᓂ 2024-ᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᑕᑯᓪᓗᒋᑦ 2022-ᒧᑦ. ᕿᖅᑯᐊᓂ ᐆᒪᔪᑦ ᐊᕕᕐᑐᖅᓯᒪᔪᑦ ᐱᐅᓂᖏᑦ 51%-ᒥᒃ ᖁᕝᕙᓯᕐᓂᖅᓴᐅᓚᐅᖅᑐᑦ 2024-ᒥ ᐱᑕᖃᕐᕕᐅᔪᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᑕᑯᓪᓗᒋᑦ 2022-ᒧ ᑭᓯᐊᓂᓕ 2024-ᒥ ᐊᔾᔨᒌᙱᓐᓂᖅᑕᕐᔪᐊᙱᑦᑐᑦ ᐊᓯᖏᓐᓄᑦ ᐊᕐᕌᒍᓯᒪᔪᓄᑦ. ᕿᖅᑯᐊᑦ SDI ᐊᔾᔨᒌᙱᓐᓂᖅᑕᕐᔪᐊᖅᓯᒪᙱᑦᑐᑦ ᐱᑕᖃᕐᕕᐅᔪᒥ 2024-ᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᕿᒥᕐᕈᓗᒋᑦ ᐊᓯᖏᓐᓄᑦ ᐊᕐᕌᒍᔪᓄᑦ ᑭᓯᐊᓂᓕ 78%-ᒥ ᖁᕝᕙᓯᕐᓂᖅᓴᐅᒧᑦ 2024-ᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᕿᒥᕐᕈᓗᒋᑦ 2022-ᒥ ᖃᐅᔨᕆᐊᕐᕕᐅᔪᓐᓇᖅᑐᓂ ᐃᓂᓂ. ᐳᓴᓐᑏᑦ ᐱᑕᖃᕐᓂᖏᓐᓂᑦ ᐊᒻᒪ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᐱᐅᓂᖏᑦ ᓂᒪᑦᑐᓐᓇᙱᑦᑐᑦ ᐆᒪᔪᕋᓛᑦ ᐱᑕᖃᕐᕕᐅᔪᒥ ᖃᐅᔨᕆᐊᕐᕕᐅᔪᓐᓇᖅᑐᒥᓗ ᐊᔾᔨᒌᙱᓐᓂᖅᓯᒪᙱᑦᑐᑦ 2024-ᒥ ᐊᓯᖏᓐᓄᑦ ᐊᕐᕌᒍᓯᒪᔪᓄᑦ. ᓅᑦᑐᓐᓇᙱᑦᑐᑦ SDI 69%-ᒥ ᖁᕝᕙᓯᕐᓂᖅᓴᐅᓚᐅᖅᑐᑦ ᐱᑕᖃᕐᕕᐅᔪᒥ 2024-ᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᕿᒥᕐᕈᓗᒋᑦ 2022-ᒧᑦ ᑭᓯᐊᓂᓕ ᐊᔾᔨᒌᙱᓐᓂᖅᑲᙱᑦᑐᑦ ᓇᓕᐊᙵᑐᐃᓐᓇᖅ ᐊᕐᕌᒍᓄᑦ ᖃᐅᔨᕆᐊᕐᕕᐅᔪᓐᓇᖅᑐᓄᑦ ᐃᓂᓄᑦ. ᓅᑦᑐᓐᓇᖅᑐᑦ ᐆᒪᔪᕋᓛᑦ ᐱᑕᖃᐅᕐᓂᖏᑦ ᐅᓄᕈᓐᓂᖅᐹᓕᖅᓯᒪᔪᑦ 149%-ᒥᒃ ᐱᑕᖃᕐᕕᐅᔪᓂ ᐃᓂᓂ, ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᑕᑯᓪᓗᒋᑦ 2021-ᒧᑦ ᐊᒻᒪ 2024-ᒧᑦ. ᓅᑦᑐᓐᓇᖅᑐᑦ ᐆᒪᔪᕋᓛᑦ ᐱᑕᖃᐅᕐᓂᖏᑦ 63%-ᒥᒃ ᖁᕝᕙᓯᕐᓂᖅᓴᐅᓯᒪᔪᑦ ᖃᐅᔨᕆᐊᕐᕕᐅᔪᓐᓇᖅᑐᒥ ᐃᓂ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᑕᑯᓪᓗᒋᑦ 2022-ᒧᑦ. ᐊᓯᔾᔨᕐᓂᖅᑕᕐᔪᐊᖅᓯᒪᙱᑦᑐᑦ ᖃᐅᔨᓴᐅᔪᓂᒃ ᐊᕐᕌᒍᒧᑦ, ᐃᓂᒧᑦ, ᐅᕝᕙᓘᓐᓃᑦ ᐊᕐᕌᒍ ᐃᓂᒧᑦ ᑕᑯᒃᑕᑦᑕᐅᑎᕝᕕᐅᔪᓂ ᓅᑦᑐᓐᓇᖅᑐᓄᑦ ᐆᒪᔪᕋᓛᑦ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓄᑦ ᐅᕝᕙᓘᓐᓃᑦ SDI-ᒧᑦ.

ᐱᓕᕆᐊᖑᓯᒪᓪᓗᓂ ᐊᕐᕌᒍᓯᒪᔪᓂ, ᐊᒃᑐᐃᓐᓂᑦ ᖃᓄᑎᒋᐅᓂᖏᑦ ᕿᒥᕐᕈᔭᐅᓯᒪᔪᖅ ᐊᑐᖅᓗᑎᒃ ᓴᙱᓕᕇᓂᒃ ᕿᒥᕐᕈᓂᖅ ᖃᐅᔨᓴᐅᖁᓪᓗᒋᑦ ᐱᓕᕆᐊᒧᑦ-ᐊᒃᑐᐊᓂᓐᓂᑦ ᐊᓯᔾᔨᖅᑐᑦ ᑐᙵᕕᒋᓪᓗᒋᑦ ᖃᓄᑎᒋᐅᓂᖏᑦ ᐅᔾᔨᕆᔭᐅᔪᑦ ᐊᓯᔾᔨᖅᑕᖅᑐᓂ ᑖᒃᑯᓇᓂ ᑭᐸᙵᓐᓂᒃᑐᓂ ᐃᖅᑲᖓᓃᑦᑐᓂ. ᐊᒃᑐᐃᓂᕐᔪᐊᑦ ᐊᖏᑎᒋᓂᖏᑦ (>50%) ᐱᑕᖃᓇᐊᖅᑲᖅᑎᑦᑎᓯᒪᔪᑦ ᓈᒻᒪᒃᑐᒥᒃ ᐱᔪᓐᓇᕐᓗᑎᒃ ᓈᓴᐅᓯᕆᓂᖅᑎᒍᑦ ᓴᙱᓂᐅᔪᓂᒃ ᐊᑕᖏᐸᓗᒃᓗᒋᑦ ᕿᒥᕐᕈᓂᕐᒧᑦ ᐊᕿᑦᑐᓂ ᐃᖅᑲᑲᖅᑐᓂ, ᐆᒪᔪᕋᓛᓂ, ᐊᒻᒪ ᕿᖅᑯᐊᓂᑦ. ᐱᔾᔪᑎᓕᓗᒋᑦ ᐊᒃᐸᓯᒃᑐᑦ ᓈᓴᐅᓯᕆᓂᕐᒧᑦ ᓴᙱᓂᐅᔪᑦ ᖃᐅᔨᓴᐅᖁᓪᓗᒋᑦ ᐊᒃᑐᐃᓐᓂᑦ ᐊᖏᑎᒋᓂᖏᑦ ᐃᒪᐃᑦᑑᓅᑐᐃᓐᓇᕆᐊᓖᑦ ᐆᒪᔪᕕᓂᕐᓄᑦ ᐊᒃᑐᐊᓂᖅᕐᓗᑎᒃ, ᓯᕗᒻᒧᐊᒐᓱᒃᑎᓗᑕ, ᐃᒪᕐᑯᔭᐅᓯᒪᔪᖅ ᑕᒪᒃᑯᐊ ᐃᓱᓕᔾᔪᑕᐅᓯᒪᔪ ᐋᖅᑭᒃᑕᐅᙱᓪᓗᑎᒃ ᒪᓕᒋᐊᖃᓪᒪᑦᑖᕐᓂᖏᓐᓄᑦ ᓈᓴᐅᓯᕆᓂᖅᑎᖑᑦ ᐊᖏᔫᓂᖏᑦ. ᐃᒪᓐᓇᓖᕐᓕ, ᐊᒃᑐᐃᓐᓂᑦ ᖃᓄᑎᒋᐅᓂᖏᑦ, ᓇᓗᓇᕐᓂᖏᑦ, ᐊᒻᒪ ᓈᓴᐅᓯᕆᓂᖅᑎᒍᑦ ᐊᖏᓂᖏᑦ ᐊᒻᒪ ᓴᙱᓂᖏᑦ ᐃᓱᒪᒋᖃᓯᐅᔾᔭᐅᓗᑎᒃ ᑲᑎᙵᓗᑎᒃ ᐊᑐᕈᓐᓃᖅᑎᑕᐅᖅᑳᖅᑎᓇᒍ ᐊᖏᑎᒋᓂᖓ ᐊᒻᒪ ᒦᓇᓚᐅᑲᐅᔪᑦ ᐊᓯᔾᔨᖅᑐᑦ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᓛᑦ.

ᑕᒪᐃᓐᓄᑦ, ᕿᖅᑯᐊᑦ ᐊᒻᒪ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕆᓛᑦ ᐱᑕᕝᕐᓂᕐᓂᑦ ᐋᖅᑭᒃᓯᒪᓂᖏᑦ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᓐᓄᑦ ᕿᒥᕐᕈᔭᒃᓴᐅᔪᑦ ᑖᒃᑯᓇᓂ ᐱᑕᕝᕙᐅᔪᓂ ᐊᒻᒪ ᖃᐅᔨᒋᐊᕐᕙᐅᔪᓐᓇᖅᑐᓂ ᐃᓂᓂ. ᐊᕐᕌᒍᒥᑦ ᐊᕐᕋᖑᒧᑦ ᐊᓯᔾᔨᖅᑕᒃᑕᕐᓂᖏᑦ ᐃᓚᖏᓐᓂ ᓇᓄᓇᐃᕈᑎᓂ ᐱᔾᔪᑎᖃᖅᑐᒃᓴᐅᔪᑦ ᓄᓇᓂ ᐊᕙᒃᑐᖅᓯᒪᔪᓂ ᐊᕙᑎᒥ ᐱᔾᔪᑕᐅᔪᓂᒃ. ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕋᓱᖕᓃᑦ ᐅᓪᓗᒥᒧᑦ ᓴᖅᑮᓯᒪᔪᑦ ᓇᓄᓇᐃᕈᑎᑕᖅᒦᓐᓂᖓᓂᒃ ᐊᖏᔪᒃᑯᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐃᓕᖅᑯᓯᐅᓕᖅᐸᒃᑐᑦ ᐊᒃᑐᐊᓂᖃᑐᐃᓐᓇᓇᐊᓖᑦ ᐱᓕᕆᐊᒥ-ᓴᖅᑭᑕᐅᓯᒪᔪᑦ ᐊᒃᑐᐃᓃᑦ. ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᖅ ᕿᖅᑯᐊᓂᒃ ᐊᒪ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕆᓛᑦ ᐋᖅᑭᒃᓯᒪᓂᖏᑦ ᐊᑐᐃᓐᓇᕐᑯᔭᐅᓯᒪᔪᑦ, ᐊᑐᕐᓗᑎᒃ ᑖᒃᑯᓂᔅᓴᐃᓐᓇᖅ ᖃᐅᔨᓴᒃᓴᓕᐅᕈᑎᓂᒃ ᐊᒻᒪ ᓈᓴᐅᑎᑎᒍᑦ ᐋᖅᑭᒃᓯᒪᓂᐅᔪᓂᒃ, ᐋᖅᑭᑎᐊᕌᕐᔫᒃᓯᒪᓗᑎᑦ ᑳᓪᓚᓂ ᓴᕙᕋᔾᔪᓂ ᐋᖅᑭᒃᓯᒪᔪᑦ ᐊᒻᒪ ᓯᓚᑖᓂ ᐊᕙᓗᐊ ᕿᒥᕐᕈᓂᕐ ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᐅᔾᔨᕐᓇᖅᓯᕆᐊᖅᓯᒪᕐᑯᓪᓗᑎᑦ ᓇᔪᒪᑦ ᐋᖅᑭᒃᐸᓪᓕᐊᓂᕆᕙᒃᑕᕐᕿᑦ ᐊᒻᒪ ᐱᑕᕝᕐᓂᐅᔪᑦ ᑕᒪᒃᑯᓇᓂ ᑎᓯᔪᓂᒃ ᖄᖅᖅᑐᓂ ᐃᓗᐊᓂ ᐊᒥᓱᑦ ᑭᐸᕐᓄᕐᑐᑦ ᐋᖅᑭᒃᓯᒪᔪᑦ ᐃᖅᑲᖓᓂ 2024-ᒥ. ᑕᒪᓐᓇ ᐋᖅᑭᑎᐊᕐᓂᖅ ᐊᒃᑐᐃᓂᐊᖅᑐᑦ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᓐᓂᒃ ᕿᒥᕐᕈᔪᓐᓇᕐᓂᕐᓂᒃ ᖃᐅᔨᔭᐅᔪᓂᒃ ᐊᕐᕌᒍᒥᑦ ᐊᕐᕌᒍᒧᑦ ᑭᓯᐊᓂᓕ ᐊᒃᑐᐃᔾᔮᕆᑦᑐᑦ ᑖᒃᑯᓇᓂ-ᐃᓂᓂ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᓐᓄᑦ ᕿᒥᕐᕈᓂᕐᓂᒃ. ᒪᕐᕉᒃ ᑭᕙᓪᓕᕈᒃᑑᒃ ᐃᖅᑲᖓᓂ ᐋᖅᑭᒃᓯᒪᔫᒃ ᖃᓂᓖᑦ ᑯᓚᓖᕐᒧᑦ ᓇᓂᔭᐅᓚᐅᙱᑦᑑᒃ 2024-ᒥ ᐊᒻᒪ ᐊᓯᐅᓯᓇᓯᕆᔭᐅᓕᖅᓱᑎᒃ. ᐃᒪᓐᓇᐅᓇᓯᕆᔭᐅᔪᖅ ᑕᒪᒃᑯᐊ ᐃᖅᑲᖓᓂ ᑭᕙᓪᓕᕈᒃᑐᐃᑦ ᐋᖅᑭᒃᓯᒪᔪᑦ ᑭᖑᕙᕗᑦᑕᐅᔾᔮᙱᑦᑐᑦ ᐃᕙᓪᓕᐊᓪᓚᓇᒃᓯᒪᓂᖓᓄᑦ ᖃᓄᐃᓕᖓᓃᑦ ᐃᖅᑲᖓᓂ ᑕᐅᕙᓂ. ᓯᓕᒃᑲᓐᓂᖅ, ᐊᑐᓕᕐᑯᔭᐅᔪᖅ ᐅᓄᖅᓯᕆᐊᕐᓗᑎᑦ ᑲᑎᑕᐅᓯᒪᓂᖏᑦ ᖃᐅᔨᒪᔭᐅᙱᑦᑐᑦ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ, ᐊᔪᕐᓇᙱᑐᐊᕋᖓᑦ, ᕿᒥᕐᕈᓂᕐᒧᑦ ᐊᒻᒪ ᓇᓄᓇᐃᔭᖅᑕᐅᓂᕐᒧᑦ. ᐊᔪᕐᓇᙱᑐᐊᕋᖓᑦ, ᑕᒪᐃᑦᑐᑦ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᑲᑎᑕᐅᓂᐊᖅᑐᑦ ᓯᓚᑖᒍᑦ ᑭᓯᐊᓂᓕ ᖃᓂᒋᔭᖓᓂ ᐋᖅᑭᕕᒃᓯᒪᔪᑦ ᐃᖅᑲᖓᓂ ᑭᕙᓪᓕᕈᒃᑐᑦ ᐋᖅᑭᒃᓯᕕᐅᔪᓯᒪᔪᓂ ᐊᒃᑐᐃᓗᐊᕐᑯᓇᒋᑦ ᐆᒃᑐᕋᖅᑕᐅᕙᖕᓂᕐᒋᑦ ᐱᑕᕝᕙᐅᔪᑦ ᖃᓄᐃᓕᖓᓂᕐᒋᑦ ᐃᓗᐊᓂ ᑕᒪᒃᑯᐊ ᐃᖅᑲᖓᓃᑦᑐᑦ ᑭᕙᓪᓕᕈᒃᑐᑦ.

ᑕᒪᐃᓐᓄᑦ, ᓇᓄᓇᐃᖅᓯᓯᒪᒐᓗᐊᖅᑎᓪᓗᕐᒋᑦ ᓈᓴᐅᓯᕆᓂᒃᑯᑦ ᑭᒡᓕᐅᔪᓂᒃ ᑕᒪᒃᑯᐊ ᐃᓗᓕᕐᒋᓐᓄᑦ (ᓘᕐᓗ ᐊᔾᔨᒌᙱᕐᔪᐊᖃᑦᑕᕐᓂᕐᒋᓐᓄᑦ ᑎᑭᐅᑎᓪᓗᑎᒃ ᑕᒪᐃᓐᓂᓄᒃᑖᖅ ᐊᒃᐸᓯᒃᑑᓪᓗᑎᒃ ᓈᓴᐅᓯᕆᓂᕐᒧᑦ ᓴᙱᓂᐅᔪᑦ), 2024-ᒥ ᖃᐅᔨᓴᕐᓂᕐᒥ ᖃᐅᔨᔭᐅᔪᑦ ᓇᓄᓇᐃᖅᓯᔪᑦ ᑕᒪᒃᑯᐊ ᐱᓕᕆᐊᒥ ᐱᓕᕆᓃᑦ ᐅᓪᓗᒥᒧᑦ ᓴᖅᑮᓯᒪᙱᑦᑐᑦ ᐊᒃᑐᐃᓂᕐᓗᕐᒋᓂᕐᓂᒃ ᕿᖅᑯᐊᓄᑦ ᐊᒻᒪ ᑯᒪᕈᐃᑦ ᐱᑕᖃᓂᐅᓂᕐᒋᓐᓂᒃ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕝᕙᕐᒥ.

ᑕᕆᐅᒥ ᐃᖃᓗᐃᑦ ᐱᑕᖃᕝᕙᕐᒋᑦ (ᐃᓛᒃᑰᖅᑕᖅᑐᑦ 6.0)

ᓈᒻᒪᒃᓯᕐᑯᓪᓗᕐᒋᑦ ᐅᔭᕋᕐᓂᐊᕈᓐᓇᐅᑎ ᓈᓴᐅᑖᖅ 99(ᐱ)(ii), 99(ᑎ), 113, ᐊᒻᒪᓗ 114, ᖃᐅᔨᓴᕝᕕᒃᓴᓕᐅᕐᓃᑦ ᐱᓕᕆᐊᕐᒍᓚᐅᖅᑐᑦ ᕿᒥᕐᕈᔪᒪᓪᓗᑎᒃ ᐊᒃᑐᐊᓂᓕᕐᓂᒃ ᐊᓯᓲᓂᕐᒋᓐᓄᑦ ᑕᕆᐅᕐᒥᐅᑕᑦ ᐃᖃᓗᐃᑦ (*Salvelinus alpinus*) ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᐃᖃᓗᐃᑦ ᐆᒪᔪᑦ ᐊᔾᔨᕐᕖᙱᕐᐊᕐᔪᒃᑐᑦ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕝᕙᕐᒥᕈᔫ. ᐊᒥᓱᑦ ᖃᐅᔨᓴᕝᕕᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᐱᓕᕆᔾᔪᓯᐅᕙᒃᑐᑦ (ᓘᕐᓗ ᐊᐅᓚᓴᕐᓃᑦ, ᒪᑎᑦᑕᕐᓃᑦ, ᐃᓗᖃᖅᑐᑦ ᒪᑎᑕᐅᑎᐅᔾᔪᑦ, ᐊᒻᒪ ᑲᑎᑕᐅᓲᑦ ᒪᑎᑦᑕᐅᑏᑦ) ᐊᑐᖅᑕᐅᓯᒪᔪᑦ ᑐᕌᒐᖅᓗᑎᒃ ᐊᔾᔨᒌᙱᑦᑐᓂᒃ ᐃᖃᓗᖕᓂᒃ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᕐᐊᕐᔪᒃᑐᑦ ᐊᒻᒪ ᓇᔪᒐᕐᒋᑦ ᖃᓄᐃᑦᑑᓂᕐᒋᓐᓄᑦ. ᑲᑎᑕᐅᔪᑦ ᐃᖃᓗᐃᑦ ᓇᓄᓇᐃᔭᖅᑕᐅᓯᒪᔪ ᐊᒃᐸᓯᒃᑐᒥᒃ ᐊᔪᕐᓇᙱᓛᒃᑯᑦ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᓂᕐᒋᓐᓄᑦ ᖃᓄᑎᕆᐅᓂᕐᒋᑦ, ᐱᓗᐊᖅᑐᒥᒃ ᐆᒪᔪᑦ ᐊᔾᔨᕐᕖᙱᕐᐊᕐᔪᒃᑐᑦ ᖃᓄᑎᕆᐅᓂᕐᒋᑦ, ᐅᑎᖅᑎᑕᐅᖅᑳᖅᑎᓐᓇᕆᑦ. ᐃᖃᓗᐃᑦ ᓇᓄᓇᐃᖅᑕᐅᓯᒪᙱᑦᑐᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᕐᐊᕐᔪᒃᑐᑦ ᖃᓄᑎᕆᐅᓂᕐᒋᑦ ᑕᐅᕙᓂ ᐱᔭᐅᓯᒪᔪᑦ ᑭᖑᓂᐊᒍᑦ ᓇᓄᓇᐃᔭᖅᑕᐅᓚᐅᖅᑎᓪᓗᕐᒋᑦ ᐃᓕᓴᕆᔭᐅᓯᒪᔪᓄᑦ ᐆᒪᔪᑦ ᖃᐅᔨᓴᕝᕙᓐᓂ. ᐃᖃᓗᒃᖅᑐᑦ ᖃᓄᐃᓕᖓᓂᕐᒋᑦ (ᐊᔾᔨᒌᙱᑦᑑᑎᑦ), ᐊᒥᓲᓂᕐᒋᑦ, ᐊᒻᒪ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓯᓐᓂᕐᒧᑦ (CPUE) ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᑖᒃᑯᓇᓂ ᐊᕐᕌᒍᔪᓂ ᐊᒻᒪ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓯᓐᓂᕐᒧᑦ (CPUE) ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᑖᒃᑯᓇᓂ ᒪᕐᕉᖕᓂ ᐃᖃᓗᓕᓴᕝᕕᐅᔪᓂ ᐃᓂᓂ (FAs) ᓇᓄᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕝᕙᕐᒥ: ᑕᕝᕙᓂᓪᓚᑦᑖᖅ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥᑦ (DPF) ᐊᒻᒪ ᐊᒃᑐᐊᓂᖃᓪᓚᑦᑖᙱᑦᑐᑦ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥ (IPF), ᓴᖑᓯᒪᓪᓗᑎᒃ ᓇᔪᒪᐃᑦ ᑕᐅᑦᑐᕐᓄᑦ ᐊᒻᒪ ᖃᓂᒋᔭᕐᒋᓐᓂ ᐱᑕᖅᐸᕿᖅᑐᑦ ᑐᓚᒃᑕᕝᕙᕐᒥ ᐱᕐᑯᑎᕐᔪᐊᓂ ᐊᒻᒪ ᐊᐅᓚᓂᕐᒥ ᐱᓕᕆᓂᐅᔪᓄᑦ.

ᑲᑎᖓᓂᑦ 633 ᐃᖃᓗᐃᑦ ᐃᓂᖃᖅᑐᑦ ᕐᑯᓕᓄᑦ ᖃᐅᔨᒪᔭᐅᔪᓄᑦ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕝᕙᕐᒥ ᑖᒃᑯᓇᓂ 88-ᓂ ᐃᖃᓗᓕᓯᓂᐅᓯᒪᔪᓂ (ᐱᓕᕆᐊᖑᓯᒪᔪᑦ) ᐊᑐᖅᓗᑎᒃ ᑲᑎᖅᓴᐱᖕᓂᒃ ᐱᓕᕆᔾᔪᓯᕐᓂᒃ 2024-ᖑᑎᓪᓗᒍ ᓯᑯᖃᙱᑎᓪᓗᒍ ᖃᐅᔨᓴᕐᓂᕐᒥ ᐱᓕᕆᓇᐅᔪᒥ. ᐊᔾᔨᒐᓗᕆᓪᓗᕆᑦ ᖃᐅᔨᓴᕝᕕᒃᓴᓕᐅᕐᓂᐅᓚᐅᖅᓯᒪᔪᓄᑦ ᐊᕐᕌᒍᓄᑦ, ᑕᕆᐅᕐᒥᐅᑕᑦ ᐃᖃᓗᐃᑦ, ᑎᒪᓴᓂᒃ ᓇᒡᔪᓕᑦ ᑲᓇᔪᑦ (Myoxocephalus quadricornis), ᐊᒻᒪ ᑲᓇᔪᐃᑦ (Myoxocephalus scorpius) ᐊᒥᒋᓚᖑᖃᑦᑕᖅᓯᒪᔪᑦ ᐊᔾᔨᒌᙱᕐᐊᕐᔪᒃᑐᓂ ᐆᒪᔪᓂ. ᐊᓯᖏᑦ ᐃᖃᓗᐃᑦ ᐃᖃᓗᒃᑕᐅᔪᑦ ᐱᖃᓯᐅᔾᔨᓯᒪᔪᑦ ᐆᒐᕐᓂᒃ (Gadus macrocephalus), ᐅᑭᐅᖅᑕᖅᑐᒥ ᑲᓇᔪᖅ (Icelus spatulata), ᐊᑦᑖᓐᑎᒃ ᐃᖃᓗᒃᓚᐃᑦ (Eumicrotremus spinosus), ᓇᓄᓇᐃᖅᑕᐅᓯᒪᙱᑦᑐᖅ ᑲᓇᔪᖅ (Family Cottidae) ᐊᒻᒪ ᓇᓄᓇᐃᖅᑕᐅᓯᒪᙱᑦᑐᖅ ᑲᓇᔪᕋᓛᖅ (Gadidae indet.). ᑕᒪᓐᓇ ᑐᒃᓕᓇᓕᖅᑕᖓ ᑭᖑᓕᕌᓂ ᐊᕐᕌᒍᓂ ᑖᒃᑯᐊ ᐊᑦᑖᓐᑎᒃ ᕿᖃᓗᒃᓚᐃᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᓪᓗᑎᒃ ᐃᖃᓗᖃᖅᑐᓂ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᒥ, ᑭᖑᓂᐅᒧᑦ ᓯᕗᓪᓕᖅᐹᒥ ᐃᖃᓗᒃᑕᐅᓚᐅᖅᑎᓪᓗᒋᑦ 2023-ᒥ.

ᖃᓄᐃᓕᖓᓂᖏᑦ ᐊᒻᒪ ᐊᒥᓲᓂᖏᑦ ᐃᖃᓗᖃᐅᖅᑐᓂ ᐃᖃᓗᒃᑕᐅᔪᑦ 2024-ᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᓐᓄᑦ ᕿᒥᕐᕈᔭᐅᑐᐃᓐᓇᓚᐅᖅᑐᑦ ᑕᐃᒃᑯᓄᖓ 2020-2023-ᒥ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓄᑦ. ᐆᒪᔪᑦ ᐊᐟᔨᒌᖕᒋᐊᕐᔪᒃᑐᑦ ᐱᐅᓂᖏᑦ ᓱᓕ ᒪᓕᒃᓯᒪᑐᐃᓐᓇᖅᑐᑦ ᑭᖑᓂᖒᑦᑎᓐᓂ ᐊᕐᕌᒍᓄᑦ ᖁᓕᓄᑦ ᖃᐅᔨᒪᔭᐅᔪᓄᑦ ᐆᒪᔪᓄᑦ ᐊᕙᒃᑐᖅᓯᒪᔪᑦ (ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ 10-12 ᐆᒪᔪᑦ ᐊᕙᒃᑐᖅᓯᒪᔪᒃ 2020-ᒥᑦ 2023−ᒧᑦ), ᐊᒻᒪ ᐱᑕᖃᐅᕐᓂᖏᑦ, ᐋᖅᑭᐊᖅᑕᐅᓯᒪᙱᑦᑐᑦ ᐃᖃᓗᒐᓱᒃᓂᕐᒧᑦ, ᖁᕝᕙᓱᖕᓂᖅᓴᐅᓚᐅᖅᑐᑦ 2023-ᒥ (633 ᐃᑰᒃᑯᖅᑐᑦ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᑕᑯᓪᓗᒋᑦ 422-ᖑᔪᑦ 2023-ᒥ), ᐊᒻᒪ ᐃᓗᐊᓃᖓᑎᒃ ᐊᒥᓱᓂᖏᓐᓄᑦ ᖃᓄᑎᒋᐅᖃᑦᑕᖅᓯᒪᓂᖏᑦ ᐊᕐᕌᒍᓂ 2020-ᒥᑦ 2022-ᒧᑦ (482-852 ᐃᑰᒃᑰᖅᑕᖅᑐᑦ).

ᖃᐅᔨᔭᐅᔪᑦ ᓈᓴᐅᓯᕆᓇᓂᕐ ᕿᒥᕐᕈᓂᒃᑯᑦ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) (ᓲᕐᓗ ᐊᖑᓂᒃᑕᐅᔪᑦ ᖃᓄᑎᒋᐅᓂᖏᑦ ᐋᖅᑭᐊᖅᓯᒪᔪᑦ ᐃᖃᓗᒐᓱᒃᓂᕐᒧᑦ) ᐃᑲᔪᖅᑐᖅᑕᐅᔪᑦ ᐱᔭᕇᖅᑕᐅᑎᓪᓗᒋᑦ ᐱᑕᖃᖅᐸᓪᓕᖅᑐᓄᑦ ᐸᓚᐅᒪᑎᑦᑎᓇᓲᑎᓄᑦ ᐊᐅᓚᓂᐅᓯᒪᔪᑦ ᐱᓂᐊᕐᓂᖃᕈᒪᓪᓗᑎᒃ ᐊᒻᒪ ᑕᒪᓐᓇ ᒫᓐᓇ ᐅᔭᕋᖕᓂᐊᕐᓂᕐ ᐱᓕᕆᓂᖅ ᓴᖅᐲᓯᒪᙱᑦᑐᑦ ᐊᒃᑐᐃᓂᕐᓗᖕᓂᕐᓂᒃ ᓄᓇᖓᓂ ᑕᕆᐅᒥ ᐃᖃᓗᐃᑦ ᐱᑕᖃᕐᕙᖏᓐᓂᒃ ᕿᙳᐊᓂ ᑕᓚᒃᑕᕐᕙᖏ. ᐅᓄᕈᓐᓃᖅᑎᑦᑎᕆᐊᖅᓯᒪᓂᖅᑕᖃᙱᑦᑐᑦ ᐃᖃᓗᐃᑦ ᐊᒥᓲᓂᖏᓐᓄᑦ ᐊᒃᑐᐊᔪᓂ ᐱᓕᕆᓂᕐᓂ ᑕᐃᑲᓂ ᑖᕝᕙᓂᓪᓚᑦᑖᖅ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥᑦ (DPF); ᐃᖃᓗᐃᑦ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE); ᐃᖃᓗᐃᑦ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) ᑕᐅᕙᓂ ᑖᕝᕙᓂᓪᓚᑦᑖᖅ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥᑦ (DPF) ᖁᕝᕙᓯᖕᓂᖅᓴᐅᓚᐅᖅᑐᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐊᐟᔨᒋᙱᓐᓂᖅᓴᐅᓂᖃᙱᓂᖅᓴ ᑖᒃᑯᓇᙵᓪᓕᑦ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) ᑕᐃᑲᓂ ᐊᒃᑐᐊᓂᖃᓪᓚᑦᑖᙱᑦᑐᑦ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥ (IPF). ᕿᒥᕐᕈᓃᑦ ᑲᑎᕐᓗᒋᑦ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) (ᐃᖃᓗᓗᒃᑖᑦ ᐆᒪᔪᑦ ᐊᐟᔨᒌᖕᒋᐊᕐᔪᒃᑐᑦ ᑲᑎᕐᓗᒋᑦ) 2024-ᒥ ᓴᖅᑮᔭᖅᑎᑦᑎᔪᑦ ᖁᕝᕙᓯᖕᓂᖅᓴᒥᒃ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) ᑕᐅᕙᓂ ᑖᕝᕙᓂᓪᓚᑦᑖᖅ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥᑦ (DPF) ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᕿᒥᕐᕈᓪᓗᒋᑦ ᑖᒃᑯᓄᖓ ᐊᒃᑐᐊᓂᖃᓪᓚᑦᑖᙱᑦᑐᑦ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥ (IPF) ᒪᑦᑎᑦᑕᕐᓂᕐᒧᑦ ᐊᒻᒪ ᐃᒃᐱᐊᕐᔫᔭᖃᖅᑐᓄᑦ ᒪᑦᑎᑦᑕᐅᑎᓄᑦ ᐊᖑᓂᒃᑕᐅᔪᑦ, ᒪᓕᑐᐃᓐᓇᖅᓯᒪᔪᑦ ᐱᐅᓯᐅᕚᒃᑐᓄᑦ ᐅᐟᔨᕆᔭᐅᔪᓄᑦ ᐊᕐᕌᒍᓯᒪᔪᓂ. ᑲᑎᕐᓗᒋᑦ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) ᐊᐅᓚᓴᕐᓂᕐᒧᑦ 2024-ᒥ ᓴᖅᑮᔭᖅᑎᑦᑎᓯᒪᔪᑦ ᑭᒡᓗᒧᖕᒑᖅ ᐱᐅᓯᐅᕚᒃᑐᓂᒃ, ᖁᕝᕙᓯᖕᓂᖅᓴᐅᓪᓗᑎᒃ ᐊᖑᓂᒃᑕᐅᔪᑦ ᑕᐃᑲᓂ ᐊᒃᑐᐊᓂᖃᓪᓚᑦᑖᙱᑦᑐᑦ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥ (IPF) ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᑕᑯᓪᓗᒋᑦ ᑖᒃᑯᓄᖓ ᑖᕝᕙᓂᓪᓚᑦᑖᖅ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥᑦ (DPF), ᐊᐟᔨᒌᙱᓐᓂᖃᖅᑎᒃ ᑭᖑᓂᖓᑦᑎᓐᓂ ᐊᕐᕌᒎᔪᓂ ᐊᖑᓂᒃᑕᐅᔪᑦ ᑕᐃᑲᓂ ᑖᕝᕙᓂᓪᓚᑦᑖᖅ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥᑦ (DPF) ᖁᕝᕙᓯᖕᓂᖅᓴᐅᖃᑦᑕᓚᐅᖅᑎᓪᓗᒋᑦ ᑖᕝᕙᙵᑦ ᐊᒃᑐᐊᓂᖃᓪᓚᑦᑖᙱᑦᑐᑦ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥ (IPF).

ᑕᕆᐅᕐᒥᐅᑕᓄᑦ ᐃᖃᓗᖕᓄᑦ, ᑕᑯᖃᑦᑕᐅᑎᓂᕐᒧᑦ ᐊᒃᑐᐃᓂᖅᑕᖃᕐᔪᐊᓚᐅᖅᑐᖅ ᑖᒃᑯᓇᓂ ᐊᕐᕌᒍᔪᓂ ᐊᒻᒪ ᐃᓂᓂ ᒪᑦᑎᑦᑕᐅᑎᓄᑦ, ᐃᖃᓗᒐᓱᒍᓯᑐᐊᖅ ᕿᒥᕐᕈᔭᐅᔪᓐᓇᓚᐅᖅᑐᖅ. ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) ᐅᐟᔨᕆᔭᐅᓚᐅᖅᑐᑦ ᑕᒪᐃᓐᓂᒃ ᐃᖃᓗᒐᓱᒡᕕᐅᔪᓂ ᐃᓂᓂ (FAs) ᐊᐟᔨᐸᓗᒋᓚᐅᖅᑕᖏᑦ 2020-ᒥ 2022-ᒧᑦ; ᑭᓯᐊᓂᓕ, 2023-ᒥ, ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) ᑕᕆᐅᕐᒥᐅᑕᑦ ᐃᖃᓗᐃᑦ ᑕᐃᑲᓂ ᐊᒃᑐᐊᓂᖃᓪᓚᑦᑖᙱᑦᑐᑦ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥ (IPF) ᐊᒃᐸᓯᖕᓂᖅᓴᕐᔪᐊᖑᓚᐅᖅᑐᑦ ᑕᐃᑲᙱᓂᑦ ᑖᕝᕙᓂᓪᓚᑦᑖᖅ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥᑦ (DPF), ᐅᓄᙱᑰᖑᓯᒪᓪᓗᑎᒃ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) ᑕᕆᐅᕐᒥᐅᑕᓄᑦ ᐃᖃᓗᖕᓄᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓂ ᐊᖓᒃᑰᖃᑦᑕᖅᓯᒪᓂᖏᓐᓄᑦ ᐋᖅᑭᒃᓱᖅᓯᒪᔪᓄᑦ. 2024-ᒥ, ᑕᕆᐅᕐᒥᐅᑕᑦ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) ᑕᐃᑲᓂᐊᒃᑐᐊᓂᖃᓪᓚᑦᑖᙱᑦᑐᑦ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥ (IPF) ᖁᕝᕙᓯᖕᓂᖅᓴᕐᔪᐊᖑᓯᒪᔪᑦ 2023-ᒥ, ᖃᓂᒌᓪᓚᕆᒃᑲᑎᒃ ᐋᖅᑭᓱᖅᑭᒃᑕᐅᓂᖏᑦ 2022-ᒥ 2022-ᒧᑦ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) ᓈᓴᐅᑎᖏᑦ ᑕᒪᒃᑯᐊ 2024-ᒥ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) ᓈᓴᐅᑎᖏᑦ ᑕᐃᑲᓂ ᑖᕝᕙᓂᓪᓚᑦᑖᖅ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥᑦ (DPF) ᓱᓕ ᒪᓕᑐᐃᓐᓇᖅᑐᑦ 2020-ᒥ, 2022-ᒥ, ᐊᒻᒪᓗ 2023-ᒥ. ᒪᑦᑎᑦᑕᕐᓂᒃᑯᑦ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) ᑕᕆᐅᕐᒥᐅᑕᓂᒃ ᐅᓄᕐᓂᖅᓴᐅᓚᐅᖅᑐᑦ ᐊᒃᑐᐊᓂᖃᓪᓚᑦᑖᙱᑦᑐᑦ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥ (IPF) ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᕿᒥᕐᕈᓪᓗᖏᑦ ᑖᒃᑯᓄᖓ ᑖᕝᕙᓂᓪᓚᑦᑖᖅ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒧᑦ (DPF) 2024-ᒥ.

ᑎᓴᒪᓂᒃ ᓇᒡᔪᓕᖕᓄᑦ ᑲᓇᔪᕐᓄᑦ, ᐃᓃᑦ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᕿᒥᕐᕈᓪᓗᒋᑦ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) ᐱᓕᕆᐊᖑᓚᐅᖅᑐᑦ ᐊᐅᓚᓴᕐᓂᕐᒧᑦ, ᒪᑦᑎᑦᑕᕐᓂᒃᑯᑦ, ᐊᒻᒪ ᐃᒃᐱᐊᕐᔫᔭᓕᖕᓄᑦ ᒪᑦᑎᑦᑕᐅᑎᓄᑦ ᐱᓕᕆᐟᔪᑎᖅᑎᒍᑦ ᐊᒻᒪᓗ, ᐱᓕᕆᐟᔪᓯᓗᒃᑖᓄᑦ, ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) ᖁᕝᕙᓯᖕᓂᖅᓴᐅᓚᐅᖅᑐᖅ ᑖᕝᕙᓂᓪᓚᑦᑖᖅ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒧᑦ (DPF) ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᕿᒥᕐᕈᓪᓗᒋᑦ ᐊᒃᑐᐊᓂᖃᓪᓚᑦᑖᙱᑦᑐᑦ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒧᑦ (IPF). ᑕᒪᓐᓇ ᐊᒃᑐᐊᓂᖃᑐᐃᓐᓇᕆᐊᓕᒃ ᐊᑐᖅᑕᐅᓂᖏᓐᓄᑦ ᐋᖅᑭᒃᓱᖅᑕᐅᓯᒪᔪᑦ ᐃᒃᑲᕆᙳᖅᑎᑕᐅᓯᒪᔪᑦ ᖃᓂᒋᔭᖓᓂ ᐱᓕᕆᕝᕕᐅᑉ ᓴᕙᒃᓴᓂᒃ ᐊᒻᒪ ᑎᑭᓴᖅᑕᐅᓯᒪᔪᓄᑦ ᐃᒃᓴᕝᕚᑦ ᑎᓴᒪᓄᑦ ᓇᒡᔪᓕᖕᓄᑦ ᑲᓇᔪᕐᓄᑦ. ᑫᒃᑳᓂᐊᒍᑦ ᑎᓴᒪᓄᑦ ᓇᒡᔪᓕᖕᓄᑦ ᑲᓇᔪᕐᓄᑦ ᒪᑦᑎᑦᑕᐅᑎᒃᑯᑦ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᒃᓂᕐᒧᑦ (CPUE) ᐃᓗᐊᓂ ᐊᒃᑐᐊᓂᖃᓪᓚᑦᑖᙱᑦᑐᑦ ᐱᓕᕆᐊᒥ ᐃᓂᐅᔪᒥ (IPF) ᐅᓄᙱᓐᓂᖅᓴᒻᒪᕆᐅᓚᐅᖅᑐᑦ 2024-ᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᕿᒥᕐᕈᓪᓗᖏᑦ ᐊᕐᕌᒍᓄᑦ 2020-ᒥ 2022-ᒧᑦ ᑭᓯᐊᓂᓕ ᐅᓄᕐᓂᖅᓴᐅᓚᐅᖅᑑᒃ ᖃᔅᓯᐅᓂᖏᑦ ᑕᑯᔭᐅᓯᒪᔪᑦ 2023-ᒥ.

ᐋᖅᑭᐊᖅᑕᐅᓂᖏᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓄᑦ ᐃᖃᓗᖃᖅᑐᓄᑦ ᐊᓂᒍᖅᑐᓂ ᐊᕐᕌᒍᒪᓕᖓᓂ ᑐᕌᒪᖃᖅᓯᒪᔪᑦ ᐱᐅᓯᑎᐊᖅᑕᐅᓗᑎᒃ ᓈᓴᐅᓯᕆᓇᓂᕐᒧᑦ ᓴᙱᓃᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ. ᖃᓄᖅᑑᕈᑕᐅᓪᓗᐊᑕᖅᓯᒪᔪᖅ 2024-ᒥ ᐱᖃᓯᐅᔾᔨᔪᑦ

ᐋᖅᑕᐅᓂᖏᑦ ᐃᖃᓗᓕᕆᔾᔪᑏᑦ ᓴᖅᑮᓯᒪᔪᑦ ᐊᒃᑐᐊᓂᓕᖕᓄᑦ ᐅᓄᙱᓐᓂᖕᓴᓂᒃ ᐊᖑᓂᖕᓂᕐᓂᒃ (ᓲᕐᓗ ᐃᒃᐱᐊᕐᕚᔮᓖᑦ ᐃᓯᕙᐅᔪᓐᓇᖅᑐᑦ ᒪᑦᑎᑦᑕᐅᑎᐅᔭᑦ ᐊᒻᒪ ᐊᐅᓚᓴᐅᑎᓂᒃ ᑲᓕᖃᑦᑕᕐᓃᑦ), ᐱᔪᓐᓇᖅᓯᑎᑦᑎᓪᓗᑎᒃ ᐱᓕᕆᐊᒃᑲᓐᓂᕋᓱᖕᓂᕐᓂᒃ ᑐᕌᒐᖃᕐᓂᖅᓴᐅᓗᑎᒃ ᐊᑐᑎᖃᖅᑐᓂᒃ ᐱᓕᕆᔾᔪᓯᕐᓂᒃ. ᐊᕐᕋᒨᓯᒪᔪᓂ, ᐊᐅᓚᓴᕐᓃᑦ, ᒪᑦᑎᑦᑕᕐᓃᑦ, ᐊᒻᒪ ᐃᒃᐱᐊᕐᕚᔮᓖᑦ ᒪᑦᑎᑦᑕᐅᑎᐅᔭᑦ ᐋᑐᑎᖃᑦᑎᐊᖅᖢᑎᒃ ᐃᖃᓗᓚᓲᑕᐅᓯᒪᔪᑦ 2024-ᒥ. ᒪᑦᑎᑦᑕᕐᓂᖅ ᐱᓗᐊᖅᑐᒥᒃ ᐋᑐᑎᖃᑦᑎᐊᖅᓯᒪᔪᖅ ᐃᖃᓗᓚᓱᒃᑎᓪᓗᖏᑦ ᑕᕆᐅᕐᒥᐅᑕᓂᒃ ᐃᖃᓗᖕᓂᒃ, ᐃᖃᓗᒃᑕᐅᓚᔪᖃᑦᑕᖅᓯᒪᙱᑦᑐᑦ ᐊᓯᖏᓐᓂᒃ ᐊᑐᖅᖢᑎᒃ ᐱᓕᕆᔾᔪᓯᕐᓂᒃ, ᒫᓇᓕᓚᖅ ᐊᕐᕌᒍᓂ, ᐊᒥᓲᓂᖅᓴᑦ ᑎᓴᒪᓂᒃ ᓇᒡᔪᓖᑦ ᑲᓇᔪᐃᑦ ᐊᖑᓂᒃᑕᐅᖃᑦᑕᖅᓯᒪᔪᑦ ᐊᑐᖅᖢᒋᑦ ᐊᐅᓚᓴᕐᓃᑦ ᐊᒻᒪ ᒪᑦᑎᑦᑕᐅᑏᑦ. ᐃᒃᐱᐊᕐᕚᔮᓖᑦ ᒪᑦᑎᑦᑕᐅᑏᑦ ᐊᑐᖅᑕᐅᙱᓐᓇᖅᓯᒪᔪᖅ ᐃᖃᓗᓚᓲᑕᐅᓪᓗᓂ ᑭᖑᕝᕚᓪᓗᓂ ᐃᓯᖅᑕᐅᔪᓐᓇᖅᑐᓂᒃ ᒪᑦᑎᑦᑕᐅᑎᐅᔭᕐᓂᒃ ᑎᓴᒪᓄᑦ-ᐊᕐᕋᒍᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑎᓪᓗᒋᑦ ᓇᓗᓇᐃᖅᓯᓯᒪᔪᑦ ᐅᓄᕐᓂᖅᓴᓂᒃ ᐊᖑᓂᖃᑦᑕᕐᓂᕆᓂᓂᒃ ᐃᒃᐱᐊᕐᕚᔮᓖᑦ ᒪᑦᑎᑦᑕᐅᑎᐅᔭᑦ. ᑲᓕᖃᑦᑕᕐᓂᖅ, ᓴᖅᑮᓚᔪᙱᒃᑲᓗᐊᖅᑎᓪᓗᒋ ᖁᕝᕙᓯᒃᑐᒥᒃ ᐊᖑᓂᒃᑕᐅᔪᑦ ᐊᑐᓂ ᐊᖑᓇᓱᙱᓐᓂᕐᒧᑦ (CPUE) ᑭᓯᐊᓂᓕ ᑲᑎᙵᐅᖅᑐᑦ ᐃᖃᓗᐃᑦ ᐊᐳᖅᑕᐅᓐᓂᕌᖓᑕ, ᐊᖑᓂᓚᔪᖃᑦᑕᓚᐅᖅᑐᑦ ᐆᒪᔪᓂᒃ ᐊᕙᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᒃᓴᓕᐊᖑᓯᒪᙱᑦᑐᓂᒃ ᐊᓯᖏᓐᓂ ᐱᓕᕆᔾᔪᓯᕐᓂ ᐊᑐᑕᐅᔪᓂ ᑕᕝᕙᓂ ᐱᓕᕆᐊᒥ. ᐱᓕᕆᓇᓱᖕᓂᕐᒧᑦ ᓈᓴᐅᑎᖏᓐᓂᒃ 2024-ᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᑦ ᕿᒥᕐᕈᔭᐅᓪᓗᑎᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐅᖓᑕᐅᔾᔨᓯᒪᔪᑦ 2023-ᒥ ᐱᓕᕆᓇᓱᖕᓂᕐᒧᑦ ᓈᓴᐅᑎᖏᓐᓂᒃ, ᕿᑎᕋᖅᓯᒪᔪᒥᒃ ᐅᓄᖅᓯᒋᐊᖅᓯᒪᔪᑦ ᐱᓕᕆᓇᓱᖕᓂᕐᒧᑦ ᓈᓴᐅᑎᓂ 2024-ᒥ ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᐱᕕᖁᖅᑐᓂᖅᓴᐅᓂᖏᓐᓄᑦ ᓯᓚᑖᓂ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ ᐃᖃᓗᖕᓂᒃ ᖃᐅᔨᓴᒃᓴᓕᐅᖅᑏᑦ ᐱᓕᕆᖃᑎᖏᑦ ᐃᑲᔪᖅᑐᖅᑕᐅᕐᑯᓪᓗᒋᑦ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᒥ (MEEMP) ᐃᖃᓗᖕᓂᒃ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖏᓐᓂᒃ ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓂ (ᑕᑯᓗᒍ ᐃᓛᒃᑯᖅᑕᖅᑐᑦ 7.0 ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖏᑦ ᐊᒻᒪ ᓂᕿᖏᑦ ᑭᓱᖾᖃᕐᒪᖔᑕ) ᐊᒻᒪ ᓯᓚᒧᑦ ᑭᖑᕚᕈᑕᐅᕙᒃᑐᑦ.

ᐱᓕᕆᔾᔪᒦᑦ ᐊᑐᓕᕐᑯᔭᐅᔪᑦ 2025-ᒥ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖅ (MEEMP) ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓄᑦ ᐱᖃᓯᐅᑎᓪᓗᒋᑦ ᐅᑯᐊ:

- ᖃᐅᔨᓴᒃᓴᐅᓕᕈᓲᑦ ᐊᑐᖅᑕᐅᔪᑦ 2024-ᒥ (ᐊᐅᓚᓴᕐᓃᑦ, ᒪᑦᑎᑦᑕᕐᓃᑦ, ᐃᒃᐱᐊᕐᕚᔮᓖᑦ ᒪᑦᑎᑦᑕᐅᑎᐅᔭᑦ, ᐊᒻᒪ ᑲᓕᖃᑦᑕᕐᓃᑦ) ᐊᑐᐃᓐᓇᐅᑎᑦᑎᔪᑦ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᓐᓂᒃ ᕿᒥᕐᕈᔪᓐᓇᕐᓂᕐᒥᒃ ᖃᐅᔨᔭᐅᔪᓂᒃ ᖃᐅᔨᔭᐅᕐᑯᓪᓗᒋᑦ ᐃᖃᓗᐃᑦ ᐊᔾᔨᒌᙱᑦᑕᖅᑐᑦ ᐅᔾᔨᕆᔭᐅᔪᑦ ᑭᖑᓂᕆᓪᓚᑦᑎᓐᓂ ᐊᕐᕋᒨᓯᒪᔪᓂ (ᐃᓚᓕᑎᓪᓗᖏᑦ ᐃᖃᓗᓚᓱᒍᓯᕐᓂᒃ ᐱᖃᓯᐅᔾᔭᐅᓯᒪᔪᑦ ᐱᓕᕆᐊᒥ) ᐊᒻᒪ ᐊᑐᓕᕐᑯᔭᐅᓪᓗᑎᒃ ᐊᑐᖅᑕᐅᓂᖏᑦ ᓯᕗᓪᓕᐊᓪᓚᓱᒃᑎᓪᓗᒋᑦ.
- ᓴᙱᓂᖏᓐᓂᒃ ᕿᒥᕐᕈᓂᖅ ᓱᓕ ᓇᓗᓇᐃᖅᓲᓐᓇᖅᑐᑦ ᓈᓴᐅᓯᕆᓂᖅᑎᒍᑦ ᓴᙱᓂᖏᑦ ᐱᓕᕆᐊᖑᓯᒪᔪᑦ ᕿᒥᕐᕈᓂᕐᒥ ᐊᒃᑐᐊᓂᖃᖅᑐᑦ ᐊᒃᐸᓯᒃᑑᓪᓗᑎᒃ, ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᕈᕝᕙᓯᓗᐊᕐᓂᖏᓐᓄᑦ ᐊᔾᔨᒃᑕᖃᑦᑕᙱᓐᓂᖏᓐᓄᑦ ᐃᖃᓗᒃᑕᐅᔪᑦ, ᐃᓱᒪᕆᖃᓯᐅᔾᔨᓃᑦ ᐃᓱᒪᕆᔾᔪᓂᐊᖅᑐᒃᓴᐅᔪᑦ ᕿᒥᕐᕈᓗᑦ ᐊᔾᔨᓐᖏᖃᑦᑕᕐᓂᖏᓐᓄᑦ ᑖᒃᑯᓇᓂ ᐃᖃᓗᓚᓱᖁᐊᐅᔪᓂ ᐃᓂᓂ (Fas) ᐊᑐᖅᑐᒋᑦ ᐊᒃᑐᐃᓂᕐᒧᑦ ᐊᖏᓕᓈᑦ ᐃᒪᐃᓐᓇᐅᙱᖔᖅᑐᑦ ᒪᓕᒡᓚᓈᓗᑎᒃ ᓈᓴᐅᑎᑎᒍᑦ ᐱᒪᓇᐅᔪᓂᒃ.

ᑕᒪᐃᓐᓅᖓᔪᓄᑦ, ᐃᖃᓗᖓᓖᓲᑦ ᐋᑐᑎᖃᕐᓂᖏᖅᑕᐅᔪᑦ ᐊᕕᒃᑐᐃᓇᓱᒃᑎᓪᓗᖏᑦ ᑕᕆᐅᒥ ᐃᖃᓗᖃᖅᑐᓂ ᐃᓱᒪᒋᓪᓗᒋᑦ ᐆᒪᔪᑦ ᐊᔾᔨᓐᖏᐊᕐᔪᒃᑐᑦ ᐱᑕᖃᕐᓂᖏᑦ ᐊᒻᒪ ᐊᒃᑐᐊᓂᓖᑦ ᐊᒥᓲᓂᖏᓐᓄᑦ. ᐱᓕᕆᐊᖅ ᐱᐅᓯᕙᓪᓕᐊᖏᓐᓇᖅᑎᑦᑎᔪᖅ ᐱᓕᕆᔾᔪᓯᕐᓂᒃ ᐃᓱᒪᒋᓪᓗᒋᑦ ᐋᑐᑎᖃᕐᓂᖏᑦ ᐃᖃᓗᒃᑕᐅᖃᑦᑕᕐᓂᖏᓐᓄᑦ, ᐊᕕᒃᑐᐃᓂᕐᒧᑦ ᐃᖃᓗᖃᖅᑐᓂᒃ, ᐊᒻᒪ ᓈᓴᐅᓯᕆᓂᖅᑎᒍᑦ ᓴᙱᓂᐅᔪᑦ, ᐊᒻᒪ ᓴᖑᓯᒪᓂᖏᓐᓂᒃ ᐃᖃᓗᓚᓱᖁᐊᐅᔪᓂ ᐃᓂᓂ (FAs) ᐊᑐᖅᑕᐅᓚᔪᒃᑐᓗ ᐱᓕᕆᔾᔪᑦ ᐃᖃᓗᓚᓱᐊᕐᓂᕐᒧᑦ ᖃᖓᒃᑰᖃᑦᑕᕐᓂᖏᑦ ᐱᕙᓪᓕᐊᓯᒪᓕᖅᑐᑦ 2020-ᒥ ᐊᒻᒪ ᐱᔪᓐᓇᖅᑎᑦᑏᓐᓇᕐᓂᐊᖅᑐᑦ ᕿᒥᕐᕈᔭᐅᕙᓪᓕᐊᖏᓐᓇᖅᑯᓪᓗᖏᑦ ᐊᕐᕋᒍᒥᑦ ᐊᕐᕋᒍᒧᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐃᓂᒥᑦ ᐃᓂᒧᑦ ᐊᓯᔾᔨᖅᑕᖅᑐᑦ ᐊᒃᑐᐊᓂᓖᑦ ᐃᖃᓗᐃᑦ ᐊᒥᓲᓂᖏᓐᓄᑦ ᐊᒻᒪ ᓇᓃᖃᑦᑕᕐᓂᖏᓐᓄᑦ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ.

ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖏᑦ ᐊᒻᒪ ᓂᕿᖏᑦ ᑭᓱᖾᖃᕐᒪᖔᑕ (ᐃᓛᒃᑯᖅᑕᖅᑐᑦ 7.0)

ᓈᒻᒪᒃᓯᓯᒪᕐᑯᓪᓗᒍ ᐅᔭᕋᖕᓂᐊᕈᓐᓇᐅᑎᒥ ᒪᓕᒃᑕᐅᔭᕆᐊᖏᑦ ᓈᓴᐅᑎᖏᓐᓄᑦ 76, 83 (ᐃ), 99 (ᐃ), 113, ᐊᒻᒪᓗ 114, ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓂᖅ ᐱᓕᕆᐊᖑᓯᒪᔪᖅ ᕿᒥᕐᕈᔭᐅᕐᑯᓪᓗᒋᑦ ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖏᑦ ᐊᒻᒪ ᓂᕿᖏᓐᓂ ᑭᓱᖾᖃᖅᒪᖔᑦ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ. ᐃᖃᓄᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖏᓐᓄᑦ ᐃᓱᓕᕝᔪᑕᐅᔪᑦ ᕿᒥᕐᕈᓯᒪᔪᑦ ᒪᕿᕐᖏᓐᓂ ᐊᔾᔨᒌᙱᑦᑐᐊᕐᔪᒃᑐᓂ ᐆᒪᔪᓂ, ᑎᓴᒪᓂᒃ ᓇᒡᔪᓖᑦ ᑲᓇᔪᑦ (*Myoxocephalus quadricornis*), ᑕᕆᐅᒥ ᐃᖃᓗᒃ, ᐊᒻᒫᓗᔪᑦ (*Hiatella arctica*), ᑕᕆᐅᒥ ᐊᒻᒫᓗᔪᑦ. ᒪᕿᒃ ᐊᔾᔨᒌᙱᑦᑐᐊᕐᔪᒃᑑᒃ ᑲᑎᑕᐅᓯᒪᔪᑦ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ ᐊᒻᒪ ᒪᕿᕐᖓᓂ ᖃᐅᔨᒋᐊᕐᕕᐅᔪᓐᓇᖅᑐᓂ ᐃᓂᓂ, ᖁᓗᖅᑐᕐᒥ, ᑐᓖᑦ ᑰᖏᓐᓇᓗ. ᖁᕐᓗᖅᑐᖅ ᐊᑐᖅᑕᐅᔪᖅ ᖃᐅᔨᒋᐊᕐᕕᐅᔪᓐᓇᖅᓱᓂ ᑎᓴᒪᓂᒃ ᓇᒡᔪᓕᖕᓄᑦ ᑲᓇᔪᕐᓄᑦ ᐊᒻᒪ ᑐᓖᑦ ᑰᒪᓛᖏᑦ ᐊᑐᖅᑕᐅᓗᓂ ᖃᐅᔨᒋᐊᕐᕕᐳᔪᓐᓇᖅᓱᓂ ᐊᒻᒫᓗᔪᕐᓄᑦ (*H. arctica*). ᑕᕆᐅᕐᒥᐅᑕᑦ ᐃᖃᓗᐃᑦ ᐱᖃᓯᐅᔾᔨᓯᒪᔪᑦ ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖏᓐᓄᑦ ᓂᕿᖏᓐᓂᓗ ᑭᓱᖾᖃᕐᒪᖔᑦ ᖃᐅᔨᓴᒃᓴᐅᕙᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓂ ᑭᓯᐊᓂᓕ ᐱᔭᐅᔪᓐᓇᖐᓐᖏᑦ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥᑐᐊᖅ. ᐊᒻᒫᓗᔪᑦ (*Hiatella arctica*),

ᑲᑎᑕᐅᓯᒪᔪᑦ ᐃᖅᑲᖓᓂ ᐆᒪᔪᕋᕆᓂᒃ ᖃᐅᔨᓴᖃᖅᓯᓂ. ᓂᕿᖕᒋᑦ ᑭᐅᒃᓴᖃᕐᒪᖔᑕ ᕿᒥᕐᕈᔭᐅᓯᒪᔪᑦ ᑎᓴᒪᓂᒃ ᓇᑦᔪᓖᑦ ᑲᓇᔪᑦ, ᐊᒻᒫᒪᔪᑦ (*Hiatella arctica*), ᐊᒻᒪ ᑕᕆᐅᕐᒥᐅᑕᓂ ᐃᖃᓗᙵ. ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖕᒋᓐᓂᒃ ᕿᒥᕐᕈᓂᖅ ᐱᖁᓯᐅᔾᔨᔪᖅ ᐃᓱᓕᔾᔪᑕᐅᔪᓂᒃ ᐊᓐᓇᐅᒪᓂᖕᒋᓐᓄᑦ, ᐱᕈᖅᐸᓪᓕᐊᓂᖕᒋᓐᓄᑦ, ᖃᓄᐃᓕᖓᓂᖕᒋᓐᓄᑦ, ᐃᕐᓂᐅᖅᐸᖕᓂᖕᒋᓐᓄᓪᓗ, ᐊᒻᒪ ᐃᓱᒪᒋᖃᓯᐅᔾᔨᓪᓗᓂ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᓂᒃ ᐃᓛᒃᑯᑦ. ᓈᓴᐅᑎᑎᒍᑦ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖕᒋᑦ ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖕᒋᓐᓄᑦ ᐃᓱᓕᔾᔨᑕᐅᔪᑦ ᐱᔭᕇᖅᑕᐅᓚᐅᖅᑐᑦ ᕿᙵᐊᓂ ᑐᓪᓚᒃᑕᕐᕕᖕᒥ ᐊᒻᒪ ᖃᐅᔨᒋᐊᕐᕕᐅᔪᓐᓇᖅᑐᓂ ᐃᓂᓂ ᑎᓴᒪᓄᑦ ᓇᑦᔪᓕᖕᓄᑦ ᑲᓇᔪᕐᓄᑦ ᐊᒻᒪ ᐊᒻᒫᒪᔪᕐᓄᑦ (*H. arctica)* ᐊᑐᕐᓗᑎᒃ ᖃᐅᔨᓴᕈᑎᓂᒃ ᑲᑎᑕᐅᔪᓂᒃ 2024-ᒥ, ᐊᒻᒪᓗᑦᑕᐅᖅ ᒫᓐᓇᓕᓴᕐᓂ ᖃᐅᔨᓴᖃᖅᓯᓕᐅᕐᓂᕐᒧᑦ ᐊᕐᕌᒍᓯᒪᔪᓂ (ᑐᕐᓗ 2020, 2021, 2022, 2023, ᐊᒻᒪ 2024) ᐊᑕᖕᒋᖅᐳᒋᑦ ᐆᒪᔪᓄᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᓄᑦ.

ᑲᑎᖢᒋᑦ, 40 ᑎᓴᒪᓂᒃ ᓇᑦᔪᓖᑦ ᑲᓇᔪᑦ ᕿᙵᐊᓂ ᑐᓪᓚᒃᑕᕐᕕᖕᒥ ᐊᒻᒪ 39 ᑎᓴᒪᓂᒃ ᓇᑦᔪᓖᑦ ᑲᓇᔪᑦ ᖁᕐᓗᖕᑐᒥ ᖃᐅᔨᒋᐊᕐᕕᐅᔪᓐᓇᖅᑐᒥ ᐱᓕᕆᐊᖑᓚᐅᖅᑐᑦ 2024-ᒥ. ᖃᐊᔾᔨᒌᙱᓐᓂᖕᒋᑦ ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖕᒋᓐᓄᑦ ᐃᓱᓕᔾᔨᑕᐅᔪᑦ ᐅᔾᔭᕆᔭᐅᓚᐅᖅᑐᑦ ᐊᕐᓇᓄᑦ ᐊᒻᒪ ᐊᖑᑎᓄᑦ ᑎᓴᒪᓂᒃ ᓇᑦᔪᓖᑦ ᑲᓇᔪᕐᓄᑦ ᑖᒃᑯᓇᓂ ᕿᙵᐊᓂ ᑐᓪᓚᒃᑕᕐᕕᖕᒥ ᐊᒻᒪ ᖁᕐᓗᖕᑐᒥ. ᐊᕐᓇᐃᑦ ᕿᙵᐊᓂ ᑐᓪᓚᒃᑕᕐᕕᖕᒥ ᐊᖏᓂᖅᓴᒻᒪᕆᐅᓚᐅᖅᑐᑦ-ᐅᑭᐅᖕᒋᑦ-ᒪᒃᑯᒋᑦ, ᐅᖓᑕᐅᔾᔨᓯᒪᓪᓗᑎᒃ ᐱᕐᔪᐊᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᐊᖏᓂᕐᓄᑦ (CES), ᑭᓯᐊᓂᓕ ᐅᕿᓐᓂᖅᓴᐅᓪᓗᑎᒃ ᐃᓱᓕᕆᓪᓗᒋᑦ ᑲᑎᖢᒋ ᐅᖁᒪᐃᓐᓂᓗᒃᑖᑦ, ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖕᒋᑦ ᑕᑯᓪᓗᒋᑦ ᐊᕐᓇᐃᑦ ᐃᖃᓗᐃᑦ ᖁᕐᓗᖕᑐᒥ. ᐊᖑᑎᓄᑦ ᐃᖃᓗᙵᓄᑦ, ᐊᖏᓂᖕᒋᑦ-ᐅᑭᐅᖕᒋᑦ–ᒪᓕᒃᑯᒋᑦ ᐊᒻᒪ ᐃᓱᓕᕆᓪᓗᒋᑦ ᑎᖑᖕᒋᑕ ᐅᖁᒪᐃᓐᓂᖕᒋᓐᓄᑦ ᐅᖓᑕᐅᔾᔨᓯᒪᔪᑦ ᐱᕐᔪᐊᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᐊᖏᓂᕐᓄᑦ (CES) ᐊᖑᑎᓄᑦ ᐃᖃᓗᙵᓄᑦ, ᐊᒻᒪ ᐅᖓᑕᐅᔾᔨᓯᒪᓪᓗᓂ ᐱᒋᐊᖅᑎᑦᑎᓂᖅ, ᖃᓄᐃᓕᐅᕐᓂᖅ, ᑲᒪᒋᔭᐅᔾᔪᑎᓄᑦ ᐸᕐᓇᐅᑎᓄᑦ (TARP) 'ᐊᒃᐸᓯᒃᑐᑦ ᐅᓗᕆᐊᓇᕈᓐᓇᕐᓂᖕᒋᑦ' ᖃᓄᐃᓪᓕᔪᖅᑳᖅᑎᓐᓇᒍ ᑭᒡᓕᐅᔪᓂᒃ. ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖕᒋᓐᓄᑦ ᐃᓱᓕᔾᔨᑕᐅᔪᑦ ᐊᔾᔨᒌᖃᑦᑕᙱᕐᔪᐊᖅᑐᑦ ᑖᒃᑯᓇᓂ ᖃᐅᔨᓴᖃᖅᓯᓕᐅᕐᓂᕐᒧᑦ ᐊᕐᕌᒍᔪᓂ ᑕᒪᐃᓐᓄᑦ ᐊᕐᓇᓄᑦ ᐊᖑᑎᓄᓪᓗ ᑎᓴᒪᓂᒃ ᓇᑦᔪᓖᑦ ᑲᓇᔪᕐᓄᑦ ᕿᙵᐊᓂ ᑐᓪᓚᒃᑕᕐᕕᖕᒥ, ᑭᓯᐊᓂᓕ ᐊᒥᒎᙱᑦᑐᑦ ᒪᓕᑐᐃᓐᓇᖅᑐᑦ ᐱᐅᓯᐅᕗᒃᑐᑦ ᐅᔾᔭᕆᔭᐅᓯᒪᔪᑦ. ᑭᑭᑕᐅᓯᒪᓪᓗᓂ ᐊᒃᑐᐊᓂᓕᒃ ᑎᖑᖕᒋᑕ ᐅᖁᒪᐃᓐᓂᖓ ᐊᕐᓇᓄᑦ ᑎᓴᒪᓂᒃ ᓇᑦᔪᓖᑦ ᑲᓇᔪᕐᓄᑦ ᕿᙵᐊᓂ ᑐᓪᓚᒃᑕᕐᕕᖕᒥ, ᐱᕙᓪᓕᐊᓯᒪᖅᑑᔭᖅ ᐊᑯᓂᐅᔪᒃᑯᑦ.

2024-ᒥ, 40 ᐊᒻᒫᒪᔪᐃᑦ *(H. arctica)* ᐱᔭᐅᓚᐅᖅᑐᑦ ᕿᙵᐊᓂ ᑐᓪᓚᒃᑕᕐᕕᖕᒥ, ᐊᒻᒪ 23 ᐊᒻᒫᒪᔪᐃᑦ *(H. arctica)* ᐱᔭᐅᓪᓗᑎᒃ ᑐᓖᓂ ᑰᓕᓛᖅᑲᕐᕕᖕᒋᓐᓂ. ᐱᕈᖅᐸᓪᓕᐊᓂᖕᒋᑦ ᐊᒻᒪ ᖃᓄᐃᓕᖓᓂᖕᒋᑦ ᐊᒃᐸᓯᖕᓂᖅᓴᐅᓚᐅᖅᑐᑦ ᕿᓯᐊᓂ ᑐᓪᓚᒃᑕᕐᕕᖕᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖕᒋᑦ ᕿᒥᕐᕈᔭᐅᓪᓗᑎᒃ ᖃᐅᔨᒋᐊᕐᕕᐅᔪᓐᓇᖅᑐᒧᑦ ᐃᓂᒧᑦ. ᐅᔾᔭᕆᔭᐅᔪᑦ ᐊᔾᔨᒌᙱᓐᓂᐅᔪᑦ ᐊᑕᖕᒋᖅᐳᒍ ᐆᒪᔪᒥᑦ ᒪᓴᐅᑎᓪᓗᒍ ᐅᖁᒪᐃᓐᓂᖓ ᐊᒃᑐᐊᓂᖅᑳᖅᑐᑦ ᑲᑎᖢᒍ ᐅᖁᒪᐃᓐᓂᖓᓄᑦ, ᐊᒻᒪ ᐃᓱᓕᕆᔭᐅᓪᓗᑎᒃ ᐅᕙᓗᖕᓚᑕ ᐅᖁᒪᐃᓐᓂᖓ ᐃᓱᓕᕆᖅᑲᓯᐅᔭᐅᓪᓗᑎᒃ ᐅᖓᑕᐅᔾᔨᓯᒪᓚᐅᖅᑐᑦ ᐱᒋᐊᖅᑎᑦᑎᓂᖅ, ᖃᓄᐃᓕᐅᕐᓂᖅ, ᑲᒪᒋᔭᐅᔾᔪᑎᓄᑦ ᐸᕐᓇᐅᑎᓄᑦ (TARP) 'ᐊᒃᐸᓯᒃᑐᑦ ᐅᓗᕆᐊᓇᕈᓐᓇᕐᓂᖕᒋᑦ' ᖃᓄᐃᓪᓕᔪᖅᑳᖅᑎᓐᓇᒍ ᑭᒡᓕᐅᔪᓂᒃ ᓈᒻᒪᒃᑑᓪᓗᓂ ᕿᒥᕐᖁᔭᐅᑎᓪᓗᒋᑦ ᐱᑕᖃᙱᑎᓪᓗᖕᒋᑦ ᐱᕐᔪᐊᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᐊᖏᓂᕐᓄᑦ (CES) ᓈᓴᐅᑎᐅᔪᑦ. ᕿᒥᕐᕈᑎᓪᓗᖕᒋᑦ ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖕᒋᓐᓄᑦ ᐃᓱᓕᔾᔨᑕᐅᔪᓂᒃ ᑕᒪᒃᑯᓄᖓ ᐊᒻᒫᒪᔪᕐᓄᑦ *(H. arctica)* ᐃᓗᐊᓂ ᕿᙵᐊᓂ ᑐᓪᓚᒃᑕᕐᕕᖕᒥ ᖃᐅᔨᓴᖃᖅᓯᓕᐅᕐᓂᕐᒧᑦ ᐊᕐᕌᒍᓯᒪᔪᓂ, ᐊᔾᔨᒌᙱᓐᓂᖕᒋᑦ ᐅᔾᔭᕆᔭᐅᓚᐅᖅᑐᑦ ᑕᑭᓂᐅᓚᔾᔪᑐᓄᑦ, ᐊᑕᖕᒋᖅᐳᒍ ᐆᒪᔫᒃ ᒪᓴᐅᑎᓪᓗᒍ ᐅᖁᒪᐃᓐᓂᖓ, ᐊᒃᑐᐊᓂᑏᑦ ᑲᑎᖢᒋᑦ ᐅᖁᒪᐃᓐᓂᖓ, ᐊᒻᒪ ᐃᕐᓂᐅᕈᓐᓇᕐᓂᖕᒋᓐᓄᑦ ᓇᓗᓇᐃᕈᑏᑦ. ᒪᓕᒃᑐᓂᒃ ᐃᓕᖅᑯᓯᖅᑕᖅᓯᒪᖕᒋᑦᑐᑦ ᐊᔾᔨᒌᙱᔾᔪᑕᐅᔪᓂᒃ ᐅᔾᔭᕆᔭᐅᔪᓂᒃ ᓇᓕᐊᖕᓄᑐᐃᓐᓇᖅ ᐃᓱᓕᔾᔨᑕᐅᔪᓄᑦ, ᐃᒪᐃᓐᓇᓯᒋᔭᐅᓪᓗᓂ ᐊᕐᕌᒍᒥᑦ ᐊᕐᕌᒍᒧᑦ ᐊᔾᔩᒃᑕᖃᑦᑕᙱᓐᓂᖕᒋᓐᓄᑦ ᐱᔾᔪᑕᐅᓪᓗᐊᑕᖅᑐᓄᑦ ᐊᔾᔨᒋᔭᐅᔪᓄᑦ ᐊᔾᔨᒌᙱᔾᔪᑕᐅᔪᓄᑦ.

ᑲᑎᖢᒋᑦ 13 ᖃᓄᐃᑦᑐᖃᖅᑎᓪᓗᒍ ᑐᕐᑯᔾᔨᑕᐅᔪᑦ ᑕᕆᐅᕐᒥᐅᑕᑦ ᐃᖃᓗᐃᑦ ᕿᒥᕐᕈᔭᐅᓚᐅᖅᑐᑦ 2024-ᒥ. ᐅᑭᐅᖅᑯᖅᑐᓕᓅᖑᓚᐅᖅᑐᑦ 7-ᒥᑦ 16-ᒧᑦ 2024-ᒥ, ᐊᔾᔨᐸᓗᒋᓪᓗᓂᐅᒃ 2021-ᒧᑦ, 2022-ᒧᑦ, ᐊᒻᒪ 2023-ᒧᑦ. ᖃᓄᐃᑦᑑᓂᖕᒋᓐᓄᑦ ᐱᔾᔨᑕᐅᔪᑦ ᑕᕆᐅᕐᒥᐅᑕᑦ ᐃᖃᓗᐃᑦ ᐊᔾᔨᒌᙱᖃᑦᑕᖅᑐᑦ ᑖᒃᑯᓇᓂ ᖃᐅᔨᓴᖃᖅᓯᓕᐅᕐᓂᕐᒧᑦ ᐊᕐᕌᒍᓄᑦ ᒪᓕᒃᑐᓂᒃ ᒫᓐᓇᓚᐅᒃ ᐃᓕᖅᑯᓯᕐᓂᒃ ᐅᔾᔭᕆᔭᐅᔪᖃᙱᖅᓱᓂ.

ᑲᑎᖢᒋᑦ 38-ᖑᔪᑦ ᓂᕿᖕᒋᓐᓂᒃ ᖃᐅᔨᓴᖃᖅᓯᓕᐊᑦ ᑐᓂᔭᐅᓚᐅᖅᑐᑦ ᓴᕙᕋᔭᖕᒧᑦ ᕿᒥᕐᕈᔭᐅᖁᓪᓗᒋᑦ 2024-ᒥ. ᑕᒪᓐᓇ ᐱᖃᓯᐅᔾᔨᔪᖅ ᐊᕐᕕᓂᓕᖕᓂ ᐱᖓᓱᓂᒃ ᑕᕆᐅᕐᒥᐅᑕᓂᒃ ᐃᖃᓗᙵᓂᒃ, ᐊᕐᕕᓂᓕᖕᓂ ᐱᖓᓱᓂᑦ ᑲᓇᔪᕐᓂᒃ, ᐊᒻᒪ ᐊᕐᕕᓂᓕᖕᓂ ᐱᖓᓱᓂᒃ ᐊᒻᒫᒪᔪᕐᓂᒃ (H. arctica) ᖃᐅᔨᓴᖃᖅᓯᓂᒃ ᕿᙵᐊᓂ ᑐᓪᓚᒃᑕᕐᕕᖕᒥ, ᐊᕐᕕᓂᓕᖕᓂᓪᓗ ᐱᖓᓱᓂᒃ ᑎᓴᒪᓂᒃ ᓇᑦᔪᓕᖕᓂᒃ ᑲᓇᔪᕐᓂᒃ ᐊᒻᒪ ᐊᕐᕕᓂᓕᖕᓂᒃ ᐊᒻᒫᒪᔪᕐᓂᒃ (H. arctica) ᖃᐅᔨᓴᖓᖃᖅᓯᓂᒃ ᖃᐅᔨᒋᐊᕐᕕᐅᔪᓐᓇᖅᑐᓂᒃ. ᐃᓚᒋᔭᐅᔪᑦ ᐱᑕᖃᙱᑦᑐᐃᓐᓇᕆᐊᖃᕐᓂᖕᒋᓐᓄᑦ ᐃᓯᒫᓘᑕᐅᔪᑦ (COPCs) ᓇᓗᓇᐃᖅᑕᐅᓚᐅᖅᑐᑦ ᐃᔾᔪᑕᐅᓪᓗᑎᒃ ᐃᓚᒋᔭᐅᓪᓗᐊᑕᖅᑐᓂ ᐱᓕᕆᐊᒥ ᓴᕕᒃᓴᒥ (ᑐᕐᓗ ᐊᓘᒥᓇᒻ, ᒪᒡᓃᓯᐊᒻ ᐊᒻᒪ ᓴᕕᒃᓴᖅ), ᐊᒻᒪᓗᑦᑕᐅᖅ ᓴᕙᕋᕗᐃᑦ ᐱᑕᖅᐸᕐᕖᖅᑐᑦ ᒪᓕᒐᖅᑎᑐᑦ ᖃᐅᔨᒪᔾᔪᑕᐅᕙᒃᑐᑦ ᐃᖃᓗᐃ ᓂᕿᖕᒋᓐᓂ (ᑐᕐᓗ ᐊᕿᕐᕉᔭᖅ ᐊᒻᒪ ᓯᓕᓂᐊᒻ). ᐱᑕᖅᐅᕐᕕᐅᔪᑦ ᐱᑕᖃᙱᑦᑐᐃᓐᓇᕆᐊᖃᕐᓂᖕᒋᓐᓄᑦ ᐃᓯᒫᓘᑕᐅᔪᓂᒃ (COPCs) ᐊᔾᔨᒌᙱᓚᐅᙱᑦᑕᖕᒋᑦ ᑖᒃᑯᓇᓂ ᖃᐅᔨᓴᖃᖅᑖᕐᕕᐅᔪᓂ ᐃᓂᓂ ᑎᓴᒪᓂᒃ ᓇᑦᔪᓕᖕᓄᑦ ᑲᓇᔪᕐᓄᑦ. ᑕᒪᒃᑯᓂᖓᓕ ᐊᒻᒫᒪᔪᕐᓄᑦ (H. arctica), ᐱᑕᖅᓂᐅᔪᑦ ᐱᑕᖃᙱᑦᑐᐃᓐᓇᕆᐊᖃᕐᓂᖕᒋᓐᓄᑦ ᐃᓯᒫᓘᑕᐅᔪᓂᒃ (COPCs) ᐊᔾᔨᒌᙱᓐᓂᖃᓚᐅᙱᑦᑐᑦ ᖃᐅᔨᓴᖃᖅᓯᓕᐅᕐᕕᐅᔪᓂ, ᑭᑭᑕᐅᓯᒪᓪᓗᑎᒃ ᐊᓘᒥᓇᒻ ᐊᒻᒪ ᓯᓕᓂᐊᒻ, ᐊᒃᐸᓯᖕᓂᖅᓴᕕᐊᖑᓚᐅᖅᑐᑦ ᖃᐅᔨᓴᖃᖅᓯᓂ ᕿᙵᐊᓂ ᑐᓪᓚᒃᑕᕐᕕᖕᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖕᒋᑦ ᑕᑯᓪᓗᒋᑦ ᑐᓕᑦ ᑰᖃᕐᕕᖕᒋᓐᓂ. ᖃᓄᑎᒋᐅᓂᖕᒋᑦ ᐊᒃᑐᐃᓃᑦ, 49% ᐊᒻᒪ 14%, ᐃᓱᓕᕆᓪᓗᒋᑦ, ᑐᖕᓖᓃᓚᐅᖅᑐᑦ ᐅᔾᔭᕆᔭᐅᓚᐅᖅᑐᑦ ᑕᕆᐅᕐᒥᐅᑕᓂ ᐃᖃᓗᙵ ᐱᕐᔪᐊᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᐊᖏᓂᕐᓄᑦ (CES). ᐱᕙᓪᓕᐊᓂᕐᔪᐊᑦ ᐃᓕᖅᑯᓯᐅᓕᖅᐸᓪᓕᐊᔪᑦ ᐊᓘᒥᓇᒻᓂ ᐊᒻᒪ ᓴᕕᒃᓴᓂᒃ ᐱᑕᖅᕕᐅᔪᓂᒃ ᐅᔾᔭᕆᔭᐅᓚᐅᖅᑐᑦ ᑕᕆᐅᕐᒥᐅᑕᑦ ᐃᖃᓗᐃᑦ ᓂᕿᖕᒋᓐᓂ

ᖃᐅᔨᓴᒃᓴᐅᔪᓂ. ᐊᑯᓂᖅᓱᖅᑐᓂ ᐱᑕᖃᕐᕕᐅᔪᓂ ᑕᒪᐃᓐᓂᒃ ᓴᕙᕋᔭᖕᓂᒃ ᓴᖅᑮᔮᖅᑎᑦᑎᓯᒪᔪᑦ ᓈᒻᒪᓴᒃᑐᓂᒃ ᐊᕐᕌᒍᒥᑦ ᐊᕐᕌᒍᒧᑦ ᐊᓯᔾᔨᖅᑕᖃᑦᑕᕐᓂᖏᓐᓄᑦ ᑭᓯᐊᓂᓕ ᐅᓄᖅᓯᕙᓪᓕᐊᖏᓐᓇᖅᑐᑦ ᐊᑯᓂᐅᔪᒃᑯᑦ. ᑎᓴᒪᓂᒃ ᓇᒡᔪᓕᖕᓄᑦ ᑲᓇᔪᕐᓄᑦ, ᐅᓄᖅᓯᕙᓪᓕᐊᕐᔪᐊᕐᓂᖏᑦ ᐃᓕᖅᑯᓯᐅᓕᖅᐸᒃᑐᑦ ᐅᔾᔨᕆᔭᐅᔪᑦ ᐊᓃᒥᓇᒻᒧᑦ. ᑕᒃᑯᓂᖓᓕ ᐊᒻᒨᒪᔪᐃᑦ (H. arctica), ᐅᓄᖅᓯᕙᓪᓕᐊᕐᔪᐊᕐᓂᕐᒥᒃ ᐃᓕᖅᑯᓯᖃᙱᑦᑐᑦ ᐅᔾᔨᕆᔭᐅᔪᓂᒃ. ᐱᑕᖃᙱᑦᑐᖅ ᐱᒋᐊᖅᑎᑦᑎᓂᖅ, ᖃᓄᐃᓕᐅᕐᓂᖅ, ᑲᒪᒋᔭᐅᔾᔪᑎᓄᑦ ᐸᕐᓇᐅᑎᓄᑦ (TARP) ᖃᓄᐃᓪᓕᔪᖃᒃᖃᖅᑎᓐᓇᒍ ᑭᒡᓕᐅᔪᑦ ᐅᖓᑖᐅᔾᔨᓯᒪᙱᑦᑐᑦ ᑎᓴᒪᓂᒃ ᓇᒡᔪᓕᖕᓄᑦ ᑲᓇᔪᕐᓄᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐊᒻᒨᒪᔪᕐᓄᑦ (H. arctica) ᓂᕿᖏᓐᓂ ᑭᓱᒃᓴᖃᕐᒪᙵᑕ.

ᐊᕿᕐᑰᔭᖅ ᐊᒻᒪ ᓯᓚᓂᐊᒻ ᐱᑕᖃᐅᕕᐅᔪᑦ ᐊᑕᖏᖅᑯᒥᑦ ᑕᕆᐅᕐᒥᐅᑕᓂᒃ ᐃᖃᓗᖕᓂ ᐊᒻᒪ ᑎᓴᒪᓂᒃ ᓇᒡᔪᓕᖕᓂᒃ ᑲᓇᔪᕐᓂ ᖃᐅᔨᓴᒃᓴᓕᐊᖑᓯᒪᔪᓂ ᐱᔭᐅᓯᒪᔪᑦ ᕿᙳᐊᓂ ᑐᓪᓚᒃᑕᕝᕕᒥ ᑐᙵᓃᓯᒪᔪᑦ ᐋᓂᐊᖃᕐᑕᐃᓕᑎᑦᑎᔨᒃᑯᑦ ᑲᓇᑕᒥ ᐅᓄᓛᖑᔫᓇᖅᑐᑦ ᖃᓄᑎᒋᐅᓂᖏᑦ ᐃᓚᐅᕈᑎᓂᑦ ᓱᑭᕐᓇᖅᑐᖃᖅᑐᑦ ᓂᕿᓂ ᐊᕿᕐᑰᔭᖃᖅᑐᓂᒃ ᓂᕆᖃᑦᑕᕐᓂᕐᒧᑦ ᖃᐅᔨᒪᔾᔨᑕᐅᔪᑦ 0.5 ᒥᓗᑮᕐ/ᑭᓗᑮᓪ ww (ᐋᓂᐊᖃᕐᑕᐃᓕᑎᑦᑎᔨᒃᑯᑦ ᑲᓇᑕᒥ 2015) ᐊᒻᒪ ᐳᕆᑎᔅ ᑲᓚᒻᐱᐊᒥ ᒥᓂᔅᑕᐅᑏᑦ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᓯᓚᓂᐊᒻᒥᒃ ᐱᑕᖃᓂᕐᐅᔪᓄᑦ ᖃᐅᔨᒪᔾᔨᑕᐅᔪᑦ 4 ᒥᓗᑮᕐ/ᑭᓗᑮᓪ dw (ᐳᕆᑎᔅ ᑲᓚᒻᒥᐊ ᒥᓂᔅᑕᐅᑏᑦ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ 2014), ᐃᓱᒪᒋᓪᓗᒋᑦ. ᐊᑕᐅᓯᖅ ᑎᓴᒪᓂᒃ ᓇᒡᔪᓕᒃ ᑲᓇᔪᖅ ᐱᔭᐅᔪᖅ ᑯᕐᓗᖅᑐᒥ ᖃᐅᔨᒋᐊᕐᕕᐅᔪᓐᓇᖅᑐᒧᑦ ᓯᓚᓂᐊᒻᒥᒃ ᐱᑕᖃᕐᕕᐅᓚᐅᖅᑐᖅ (4.20 ᒥᓗᑮᕐ/ᑭᓗᑮᓪ dw) ᐅᖓᑖᐅᔾᔨᓯᒪᓪᓗᓂ ᐳᕆᑎᔅ ᑲᓚᒻᒥᐊᒧᑦ ᖃᐅᔨᒪᔾᔨᑕᐅᔪᓂᒃ.

ᑲᑎᕐᓗᒋᑦ ᐊᕐᕕᓂᓖᑦ ᐱᙱᓱᓪᓗ ᑎᓴᒪᓂᒃ ᓇᒡᔫᓕᑦ ᑲᓇᔪᐃᑦ ᐊᒻᒪ ᐊᕐᕕᓂᓖᑦ ᐱᙱᓱᓪᓗ ᐃᖃᓗᖕᓂᒃ ᑕᕆᐅᕐᒥᐅᑕᓂᒃ ᖃᐅᔨᓴᒃᓴᓂᒃ ᕿᙳᐊᓂ ᑐᓪᓚᒃᑕᕐᑯᖕᒥ ᕿᒥᕐᕈᔭᐅᓯᒪᔪᑦ ᐅᖅᓯᐊᓗᒃᓴᖃᖅᑐᓄᑦ (PAHs) 2024-ᒥ ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᑭᒡᓕᖃᕐᓂᖏᓐᓄᑦ ᖃᐅᔨᓴᒃᓴᓕᐊᑦ ᖃᓄᑎᒋᐅᓂᖏᑦ. ᐱᑕᖃᕐᓂᐅᔪᑦ ᐊᑕᖏᖅᑯᒥᑦ ᐅᖅᓯᐊᓗᒃᓴᖃᖅᑐᓄᑦ (PAHs) ᑕᕆᐅᕐᒥᐅᑕᓂ ᐃᖃᓗᖕᓂ ᐊᒻᒪ ᑎᓴᒪᓂ ᓇᒡᔪᓕᖕᓂ ᑲᓇᔪᕐᓂ ᑐᙵᓃᓯᒪᔪᑦ ᐅᓂᒃᑳᓕᐅᕐᓂᕐᒥ ᖃᐅᔨᔭᐅᔪᓄᑦ ᑭᒡᓕᐅᔪᓂ (<0.050 ᒥᓗᑮᓪ/ᑭᓗᑮᓪ ww).

ᕿᒥᕐᕈᓂᖅ ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖏᓐᓂᒃ ᐊᒻᒪ ᓂᕿᖓᓂ ᑭᓱᒃᓴᖃᕐᒪᙵᑦ 2024-ᒥ ᑎᓴᒪᓂᒃ ᓇᒡᔪᓕᖕᓂ ᑲᓇᔪᕐᓂ, ᐊᒻᒨᒪᔪᐃᑦ (H. arctica), ᐊᒻᒪ ᑕᕆᐅᕐᒥᐅᑕᓂ ᐃᖃᓗᖕᓂ ᓇᓗᓇᐃᖅᓯᔪᖅ ᐊᒃᐸᓯᒃᑐᒥᒃ ᐊᔾᔨᒌᙱᖏᓐᓂᖃᖅᑎᒋᓂᖏᓐᓄᑦ ᐃᓱᓕᔾᔪᑕᐅᔪᑦ ᐊᑯᓂᐅᔪᒃᑯᑦ ᐊᒻᒪ ᑖᒃᑯᓇᓂ ᖃᐅᔨᓴᒃᓴᓕᐅᕐᕕᐅᔪᓂ, ᐃᒪᐃᓐᓇᓱᒋᓐᓈᓪᓗᑎᒃ ᐊᕐᕌᒍᒥᑦ ᐊᕐᕌᒍᒧᑦ ᐊᓯᔾᔨᖅᑕᖅᑐᑦ ᐃᓱᓕᔾᔪᑕᐅᓪᓗᑎᒃ. ᖃᐅᔨᔭᐅᔪᓗᒃᑖᑦ ᐃᓗᐊᓃᑦᑐᑦ ᑭᖑᓪᓕᖅᐹᒥᒃ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐃᓂᐅᓂᐊᖅᑐᑦ ᐅᓂᒃᑳᓂ (FEIS) ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᓂ, ᓇᓗᓇᐃᖅᓯᓪᓗᑎᒃ ᐱᑕᖃᑐᐃᓐᓇᕆᐊᖃᕐᓂᖅᓚᓂᒃ ᐊᒃᐸᓯᒃᑐᒥᒃ ᖃᓄᑎᒋᐅᓂᖅᓚᓄᑦ ᐊᒃᑐᐃᓂᕐᓂᒃ ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖏᓐᓄᑦ ᐊᒻᒪ ᓂᕿᖓᓂ ᑭᓱᒃᓴᖃᕐᒪᙵᑦ. ᓇᓗᓇᐃᕈᑎᑕᖃᙱᑦᑐᖅ ᐱᓕᕆᐊᒧᑦ - ᐊᒃᑐᐊᔪᓂᒃ ᐊᒃᑐᐃᓂᕐᓂᒃ ᐅᖓᑖᓄᑦ ᐱᕐᔪᐊᓂᐅᓯᒪᔪᑦ ᑕᐃᑲᓂ ᑭᖑᓪᓕᖅᐹᒥᒃ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐃᓂᐅᓂᐊᖅᑐᑦ ᐅᓂᒃᑳᓄᑦ (FEIS) ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᓂ ᐃᖃᓗᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖏᓐᓄᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓂᕿᖏᓐᓂ ᑭᓱᒃᓴᖃᕐᒪᙵᑦ 2024-ᒥ.

ᑕᐃᓕᓂᕐᒥᐅᑕᐅᙱᑦᑐᑦ ᐆᒪᔪᑦ (NIS) ᐊᒻᒪᓗ ᑎᑭᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ (AIS) (ᐃᓚᒃᑰᖅᑕᖅᑐᑦ 8.0)

ᑖᕝᕙᓂ ᐃᓚᒃᑰᖅᑕᖅᑐᒥ ᓴᖅᐱᓯᒪᔪᑦ ᖃᐅᔨᔭᐅᔪᓂᒃ ᐊᑕᖂᓯᒪᔪᓂᒃ ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓂᕐᒥᑦ ᐱᓕᕆᐊᖑᓯᒪᔪᓂ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓂ ᕿᙳᐊᓂ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᖅᑕᐅᖁᓪᓗᒋᑦ ᐱᑕᖃᕐᓂᖏᑦ ᑕᐃᓕᓂᕐᒥᐅᑕᐅᙱᑦᑐᑦ ᐆᒪᔪᑦ (NIS) ᐊᒻᒪ ᑎᑭᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ (AIS), ᓈᒻᒪᒃᓯᑎᑦᑎᓪᓗᑎᒃ ᐅᔭᕋᖕᓂᐊᕈᓐᓇᐅᑎᒧᑦ ᒪᓕᒃᑕᐅᔭᕇᐊᓛᑦ 87, 89, ᐊᒻᒪ 91. ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ ᐱᖁᓯᐅᔾᔨᔪᑦ ᑕᒪᐃᓐᓂᒃ ᑐᕌᕐᓇᔭᐅᔪᓂᒃ (ᓲᕐᓗ ᐃᖅᑲᙳᓂ ᐱᔭᐅᔪᑦ, ᐃᖅᑲᙳᓄᐊᖅᐸᓪᓕᐊᔪᑦ ᓄᓇᖕᖑᓄᑦ, ᐊᒻᒪ ᑯᒪᕈᕐᓂᒃ ᐱᓇᓱᒃᑯᑎᒃ ᑲᑎᑕᐅᑲᑕᒃᑐᑦ) ᐊᒻᒪ ᑕᐃᒪᐃᑦᑐᓕᒫᑐᐃᓐᓇᑦ (ᓲᕐᓗ ᕿᒥᕐᕈᔭᐃᓐᓇᓪᓗᒋᑦ ᐊᑕᖏᖅᑯᒥᑦ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᐊᑐᖅᑕᐅᓪᓗᑎᒃ ᑕᕆᐅᑉ ᐊᕙᑎᖓᓄᑦ ᐊᒃᑐᐃᓂᕐᓄᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓂ (MEEMP) ᐃᓗᓕᖏᑦ, ᓲᕐᓗ ᐃᖃᓗᐃᑦ, ᐃᖅᑲᙳᓂ ᐱᕈᖅᑐᑦ ᐊᒻᒪ ᐆᒪᔪᕋᓛᓂᒃ ᖃᐅᔨᓴᕐᓃᑦ) ᖃᐅᔨᓴᒃᓴᓕᐅᕈᓯᖕᓃᑦ. ᑕᒃᑯᐊ ᐅᔾᔨᕆᔭᐅᔪᑦ ᐊᒻᒪ ᖃᐅᔨᓴᒃᓴᓕᐊᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᓐᓄᑦ ᕿᒥᕐᕈᔭᐅᓚᐅᖅᑐᑦ ᑖᒃᑯᓄᓪᓚ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᓈᓴᖅᑕᐅᓯᒪᔪᓄᑦ, ᐱᖁᓯᐅᔾᔨᔪᑦ ᐆᒪᔪᓂᒃ ᐊᕕᒃᑐᖅᓯᒪᔪᓂᒃ ᖃᐅᔨᔭᐅᓯᒪᔪᑦ ᕿᙳᐊᓂ ᐊᒻᒪ ᐊᕐᕌᒍᑕᒫᑦ ᓄᑖᙳᓇᐊᖅᑕᐅᕙᒃᓱᑎᒃ. ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᖃᓄᐃᓕᖓᓂᕐᒥᒃ ᓄᓇᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᒪᔭᐅᓗᐊᙱᑦᑐᖅ ᐊᒻᒪ ᓂᕆᐅᒋᔭᐅᓪᓗᑎᒃ ᐊᑐᓂ ᐊᕐᕌᒍᒥ ᑕᒪᑐᒧᖓ ᖃᐅᔨᓴᒃᓴᓕᐅᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ ᖃᐅᔨᔭᖃᕐᓂᐊᖅᑐᑦ ᐆᒪᔪᓂᒃ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᑭᖑᓂᙵᑎᓐᓂ ᑎᑎᕋᖅᑕᐅᓯᒪᓚᐅᙱᑦᑐᓂᒃ. ᐅᖃᓕᒫᓕᓂᒃ ᕿᒥᕐᕈᓃᑦ ᐱᓕᕆᐊᖑᔪᑦ ᐆᒪᔪᓄᑦ ᐊᕕᒃᑐᓯᒪᔪᓄᑦ ᐃᓕᒋᔭᐅᓚᐅᙱᑦᑐᓄᑦ ᓈᓴᖅᑕᐅᓯᒪᔪᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᖅᑰᖅᑐᖏᑦ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᖃᓄᑎᒋᐅᓂᖏᓐᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᑎᒍᑦ; ᑳᒃᑲᓐᓂᐊᒍᑦ ᑕᒪᒃᑯᐊ ᐆᒪᔪᐃᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᖃᐅᔨᒋᐊᕐᕕᒃᑲᕐᕕᐅᔪᓐᓇᖅᓯᒪᔪᑦ ᐃᒻᒥᙵᓄᑦ ᑕᒪᐃᓐᓂᒃ ᓄᓇᕐᒥᐊᒥ ᐊᒻᒪ ᓄᓇᒋᔭᐅᔪᒥ ᑎᑎᕋᖅᓯᒪᕝᕕᐅᕙᒃᑐᓂ ᖃᐅᔨᒪᔭᐅᔪᓄᑦ ᑎᑭᐸᒃᑑᓪᓗᑎᒃ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ. ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᖃᐅᔨᒋᐊᕕᐅᓯᒪᖕᒥᔪᑦ ᐱᓕᕆᐊᒧᑦ-ᑖᔅᓯᒧᖕᒪᓪᓚᑦᑖᖅ ᓇᐅᑦᑎᖅᓱᕐᓂᕐᒧᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ (ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᑕᐃᔭᐅᓯᒪᔪᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᖅᑕᐅᖁᓪᓗᒋᑦ ᐊᒻᒪ ᕿᒥᕐᕈᓕᖅᑭᒃᑕᐅᑲᑦᑕᖁᓪᓗᒋᑦ) ᐃᓗᓕᖃᖅᑐᑦ ᐆᒪᔪᓂᒃ ᐊᕕᒃᑐᖅᓯᒪᔪᓂᒃ ᕿᒥᕐᕈᔭᐅᓯᒪᔪᑦ ᐃᓗᐊᓂ ᐊᒃᐸᓯᒃᑐᑦ, ᐊᑯᓂᖅᓱᖅᑐᑦ, ᐅᕝᕙᓘᓐᓃᑦ

ᖁᕝᕙᓯᒃᑐᒥᒃ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑐᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᓄᑦ, ᐊᑖᓂ ᐅᓂᒃᑳᖅᑕᐅᓯᒪᔪᑦ. ᖃᐅᔨᔪᖃᕈᓂ ᐆᒪᔪᓂᒃ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᓇᓗᓇᐃᖅᑕᐅᔪᓐᓇᙱᒃᑯᓂ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᖃᓄᑎᒋᐅᓂᖕᒋᓐᓄᑦ, ᐊᓯᖕᒋᑦ 'ᑭᒻᒪᖅᑐᖅᑕᐅᔪᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ' ᑖᒃᑯᓇᓂ ᐆᒪᔪᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑐᑦ ᐊᑐᖅᑕᐅᔪᓄᑦ ᔭᒪᐃᑦᑕᐃᓕᒪᓂᕐᒧᑦ, ᑐᕋᒪᖃᖅᓗᑎᒃ ᑕᐃᒃᑯᓂᖓ ᐱᑕᖃᓕᑐᐃᓐᓇᕆᐊᓕᙵᓂᒃ ᐅᑭᐅᖅᑕᖅᑐᒥ (ᐱᓗᐊᖅᑐᒥ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᐆᒪᔪᑦ ᓄᓇᓕ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᐅᕝᕙᓘᓐᓂᑦ ᐊᕕᒃᑐᖅᓯᒪᒃᑲᓂᐅᔭᖅᑐᓂ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᓈᒻᒪᒋᔭᐅᓚᐅᖅᑐᑦ ᑭᓯᐊᓂᓕ ᐊᑕᙱᖅᓱᒋᑦ ᐊᓯᙱᑦ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᐃᓱᒪᒋᖃᓯᐅᔾᔭᐅᓚᐅᖅᑐᑦ).

ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᔪᑦ ᐅᑯᓄᖓ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑐᓄᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᓄᑦ:

ᐅᓗᕆᐊᓇᖅᑐᖃᙱᑦᑐᖅ: ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᐃᓱᒪᒋᖃᓯᐅᔾᔭᐅᓯᒪᔪᑦ "ᐅᓗᕆᐊᙱᓐᓂᖕᒋᓐᓂᒃ" ᐃᒪᐃᒃᑯᓂ:

- ᓴᖅᑭᔮᖅᑐᑦ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᐊᓂ ᐱᓕᕆᐊᖅ ᐊᐅᓚᓂᖃᓯᒋᐊᖅᑳᖅᑎᓐᓇᒍ (2015). ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᐃᓱᒪᒋᔭᐅᖃᓯᐅᔾᔭᐅᑐᐃᓐᓇᕆᐊᓕᒃ "ᐅᓗᕆᐊᓇᖅᑐᒦᙱᓐᓂᕆᓂᒃ" ᑎᑎᖅᑲᐃᑦ ᐱᑕᖃᕈᑎᒃ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᐊᑕ ᓯᓚᑖᓂ ᐱᓕᕆᕙᐅᔩᑦ ᐃᓂᐊᓂ ᐊᒃᑐᐃᓂᖏ, ᓇᓃᕙᐅᕙᒃᑐᓂ ᐃᒫᓂ ᖃᓂᒋᔭᕐᕆᓂ ᑲᓇᑕᒥ ᐅᑭᐅᖅᑕᖅᑑᑦ ᐱᑕᖃᖅᑎᑦᑎᔪᖅ ᓇᓗᓇᙱᓪᓚᕆᒃᑐᒥᒃ ᓇᓃᖃᑦᑕᖏᓐᓂᖕᒋᓐᓂᒃ ᐱᖃᓯᐅᑎᓪᓗᒍ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᕐᒥ.

ᐊᒻᒪᓗ

- ᑎᑎᖅᑕᐅᓯᒪᙱᑦᑐᑦ ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ (AIS) ᑎᑎᕋᖅᑕᐅᓯᒪᕙᖕᒋᑦ, ᐅᕙᓘᓐᓃᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᒍᑎᒃ, ᑲᓇᑕᖁᖅ ᐅᑭᐅᖅᑕᖅᑐᐊᓂᕐᒥᐅᑕᐅᖕᒋᓐᓇᐅᔭᖅᐹᑦ ᐅᕙᓘᓐᓃᑦ ᑭᒻᒪᖅᑐᐃᔾᔨᐅᓪᓗᑎᒃ ᐆᒪᔪᓄᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᐃᒪᐃᑦᑑᓪᓗᑎᒃ ᐃᒪᐃᙱᑦᑐᒃᓴᐅᔪᖅ ᓴᖅᑭᓇᔭᙱᕐᓗᑎᒃ ᐅᑭᐅᖅᑕᖅᑐᒥ (ᓛᖁᓗ ᐱᓗᐊᖅᑐᒥ ᐅᖅᑰᔪᕐᒥᐅᑕᑦ/ᐅᖅᑯᔪᐃᑦ ᓄᓇᐃᑦ ᖃᓂᒋᔭᖕᒋᓐᓂ)

ᐅᒃᐸᓯᒃᑐᒥᒃ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑐᖅ: ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᐃᓱᒪᒋᖃᓯᐅᔾᔭᐅᔪᑦ "ᐊᒃᐸᓯᒃᑐᒥᒃ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑑᔪᑦ" ᐃᒪᐃᒃᑯᓂ:

- ᐅᖃᐅᑕᐅᓯᒪᙱᑦᑐᑦ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᐊᓂ, ᐅᕙᓘᓐᓃᑦ ᐅᖃᐅᓯᐅᓯᒪᔪᖅ ᓇᓗᓇᕐᔪᐊᖅᓱᓂ, ᐅᕙᓘᓐᓃᑦ ᐊᒃᑐᐊᓂᖃᙱᑦᑐᑦ ᐅᒥᐊᕐᔪᐊᖃᖃᑦᑕᕐᓇᒧᑦ (ᓛᖁᓗ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᐱᑕᖃᕐᓂᖕᒋᑦ ᑕᐃᒪᐃᓐᓇᔭᙱᑦᑐᒃᓴᐅᔪᖅ ᐅᖓᓯᒌᒃᑕᕐᓂᖕᒋᓐᓄᑦ ᐊᒃᑐᐊᔪᓄᑦ ᓯᓚᐅᑉ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᓂᖓᓄᑦ)

ᐊᒻᒪᓗ

- ᑎᑎᕋᖅᑕᐅᓯᒪᙱᑦᑐᑦ ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ (AIS) ᑎᑎᕋᖅᑕᐅᓯᒪᕙᖕᒋᓐᓂ, ᐅᕙᓘᓐᓃᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ (ᐅᕙᓘᓐᓃᑦ ᐱᑕᖃᕐᔪᐊᒃᑳᓚᖕᓂᖅᐸᑦ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᓂᖕᒋᓐᓄᑦ ᓇᓗᓇᐃᔭᐅᑎᑕᖃᓪᓚᑦᑖᕐᓗᓂ, ᐊᑕᐅᓯᕐᒧᑦ ᐅᖓᑖᓄᓛᓐᓃᑦ ᑭᒻᒪᖅᑐᖅᑕᐅᔪᓂ ᐆᒪᔪᓂ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᓂ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓂᑦ ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ (AIS) ᑎᑎᕋᖅᑕᐅᓯᒪᕙᖕᒋᓐᓂ) ᑭᒻᒪᖅᑐᐃᔩᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᐃᒪᐃᑦᑐᑦ/ᐃᒪᓐᓇᐅᔪᑦ ᓴᖅᑭᓐᓇᔭᙱᑦᑐᒃᓴᐅᔪᑦ ᐅᑭᐅᖅᑕᖅᑐᒥ (ᓛᖁᓗ ᐱᓗᐊᖅᑐᒥ ᐅᖅᑰᔪᕐᒥᐅᑕᑦ/ᐅᖅᑯᔪᐃᑦ ᓄᓇᐃᑦ ᖃᓂᒋᔭᖕᒋᓐᓂ), ᐅᕙᓘᓐᓃᑦ, ᑎᑎᕋᖅᑕᐅᓯᒪᒍᑎᒃ ᓴᖅᑭᓯᒪᓗᑎᒃ ᑕᐅᕙᓂ ᐊᔾᔨᒪᓗᖕᒋᓐᓂᒃ ᐊᓄᐃᓕᙵᓂᐅᔪᒥ, ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᑕᒦᓂᕐᒥᐅᑕᙱᓪᓗᑎᒃ ᓄᓇᒧᑦ ᐱᑕᖃᓕᑐᐃᓐᓇᕆᐊᓖᑦ,

ᐊᒻᒪᓗ

- ᓴᖅᑭᔮᖅᑎᑦᑎᙱᓪᓗᑎᒃ ᑎᑭᑉᐸᒃᑐᑐᑦ ᐃᓕᖅᑯᓯᖅᓱᑎᒃ ᕿᙰᐊᓂ.

ᐊᑯᓐᓂᖅᓱᖅᑐᒥ ᐅᓗᕆᐊᓇᕈᓇᑐᐃᓐᓇᕆᐊᓖᑦ: ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ "ᐊᑯᓐᓂᖅᓱᖅᑐᒥᒃ ᐅᓗᕆᐊᓇᕈᓇᑐᐃᓐᓇᕆᐊᓖᑦᓵ" ᐃᒪᐃᒃᑯᓂ:

- ᐅᖃᐅᓯᐅᓯᒪᙱᓪᓗᑎᒃ ᐱᑕᖃᕐᓂᖕᒋᑦ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᐊᓂ, ᐅᕙᓘᓐᓃᑦ ᐅᖃᐅᓯᐅᓯᒪᓂᖕᒋᑦ ᓇᓗᓇᖅᑑᕐᔪᐊᕐᓗᑎᒃ

ᐊᒻᒪᓗ

- ᐊᑦᑕᑕᖅᓯᒪᔪᓐᓇᕐᓗᑎᒃ ᐅᒥᐊᕐᔪᐊᑦ ᐃᖕᒋᕋᕝᕕᒋᔪᓐᓇᖅᑕᖕᒋᑦᑎᒍᑦ

ᐊᒻᒪᓗ

- ᑎᑎᕋᖅᑕᐅᓯᒪᓗᑎᒃ ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ (AIS) ᐊᓯᖕᒋᓐᓂ ᐃᓂᐅᔪᓂ, ᐱᑕᖃᖅᑐᖃᙱᒃᑲᓗᐊᖅᑎᓪᓗᒍ ᐱᕐᔪᐊᒥ ᐃᓕᖅᑯᓯᖃᓕᑐᐃᓐᓇᕆᐊᖃᕐᓂᖕᒋᓐᓂᒃ ᐆᒪᔪᑦ ᓇᔪᒐᖕᒋᑦᑕ ᓯᓚᑎᖕᒋᑦᑕᓘᓐᓃᑦ ᐊᔾᔭᐸᓗᒋᓗᓂᐅᒃ ᕿᙰᐊᓄᑦ

ᐊᒻᒪᓗ

- ᓴᖅᑭᔮᖅᑎᑦᑎᓯᒪᙱᓪᓗᑎᒃ ᑎᑭᑉᐸᒃᑐᑦ ᐃᓕᖅᑯᓯᖃᕐᓗᑎᒃ ᕿᙳᐊᓂ

ᖁᕝᕙᓯᒃᑐᒥᒃ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑐᑦ: ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ “ᖁᕝᕙᓯᒃᑐᒥᒃ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑐᑦ” ᐃᒪᐃᒃᑯᓂ:

- ᐅᖃᐅᓯᐅᓯᒪᙱᓪᓗᓂ ᐱᑕᖃᕐᓂᖔᓂᒃ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᐊᓂ, ᐅᕝᕙᓘᓐᓃᑦ ᐅᖃᐅᓯᐅᓯᒪᓗᓂ ᓇᓗᓇᕐᔪᐊᕐᓗᓂ

ᐊᒻᒪᓗ

- ᐊᑦᑕᑕᖅᓯᒪᔪᓐᓇᕐᓗᑎᒃ ᐅᒥᐊᕐᔪᐊᑦ ᐃᖏᕐᕋᕝᕕᒋᔪᓐᓇᖅᑕᖏᑦᑎᒍᑦ

ᐊᒻᒪᓗ

- ᑎᑎᕋᖅᑕᐅᓯᒪᓪᓗᓂ ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᕇᑦ (AIS) ᐊᓯᖏᓐᓂ ᐃᓂᓂ

ᐊᒻᒪᓗ

- ᑎᑎᕋᖅᑕᐅᓯᒪᑦᑎᐊᕙᓂ ᐱᑕᖃᑐᐃᓐᓇᕆᐊᖃᕐᓂᖕᒪᓂᑦ ᐱᕐᔪᐊᒥ ᑎᑭᑉᐸᒃᑐᑦ ᐃᓕᖅᑯᓯᖃᕐᓗᓂ ᐆᒪᔪᑦ ᓇᔪᙱᓐᓂ ᓯᓚᑎᙱᓐᓂᓗ ᐊᔾᔨᐸᓗᙱᓐᓂ ᕿᙳᐊᓂ, ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᓴᖅᑭᔮᖅᓯᒪᓪᓗᑎᒃ ᑎᑭᑉᐸᒃᑐᑦ ᐃᓕᖅᑯᓯᖃᖅᑯᑎᒃ ᕿᙳᐊᓂ.

ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᔪᓄᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓄᐊᖅᑕᐅᓗᑎᒃ ᐱᖃᓯᐅᑎᓪᓗᒋᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᑎᑭᐅᑎᓯᒪᔪᑦ ᒪᓕᒃᑕᐅᔭᕆᐊᓕᙵᓄᑦ ᐊᒃᐸᓯᒃᑐᓄᑦ-, ᐊᑯᓂᖅᓱᖅᑐᓄᑦ– ᐊᒻᒪ ᖁᕝᕙᓯᒃᑐᓄᑦ-ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑐᓄᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᓇᓗᓇᐃᔭᖅᑕᐅᓯᒪᔪᑦ ᖁᓛᓂ. ᖃᒃᑲᓂᐊᒍᑦ, ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᐃᓕᔭᐅᑐᐃᓐᓇᕆᐊᓖᑦ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᔪᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᓄᑦ ᐅᔾᔨᖅᓱᖅᑕᐅᖁᓪᓗᒋᑦ ᐃᑲᔪᖅᑑᑎᖃᕆᐊᖃᒃᑲᓂᕈᑎᒃ ᖃᐅᔨᓴᕈᑎᓂᒃ, ᓲᕐᓗ ᓇᓗᓇᐃᖅᑕᐅᓗᑎᒃ ᑭᓇᐅᔾᔪᑎᖏᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓇᓗᓇᐃᖅᑕᐅᓗᑎᒃ ᐅᓄᖅᓯᕙᓪᓕᐊᓂᕚᑕᖏᑦ. ᑕᒪᒃᑯᐊ ᖁᕝᕙᓯᒃᑐᓄᑦ-ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑐᑦ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᓇᓗᓇᐃᔭᖅᑕᐅᓯᒪᓗᑎᒃ ᐃᓱᒪᒋᖃᓯᐅᔾᔭᐅᔪᑦ ᓴᖅᑭᑕᐅᓇᕆᐊᖃᖅᑐᑦ ᐊᑐᖅᑕᐅᓗᑎᒃ ᐱᓕᕆᐊᒥ ᐅᒥᐊᕐᔪᐊᖃᖃᑦᑕᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ, ᐃᓚᔭᐅᓇᔭᖅᑐᑦ ᐱᒋᐊᕈᑎᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᓄᑦ (ᑎᑎᕋᖅᓯᒪᔪᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ “ᐱᒋᐊᕈᑕᐅᔪᑦ” ᐱᕙᓪᓕᐊᑎᑕᐅᓂᕐᒥᑦ ᓲᒃᑲᓕᔾᔪᑦ ᑲᒪᔾᔪᑎᓄᑦ ᐸᕐᓇᐅᑏᑦ ᓇᓗᓇᐃᔭᐃᔪᑦ ᑲᒪᔾᔪᑎᒃᓴᑦ ᐆᒪᔪᓄᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᓄᓪᓚᑦᑖᖅ ᐊᒻᒪ ᐃᓚᖏᓐᓄᑦ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑐᑦ). ᐅᖃᓕᒫᒐᕐᓂᒃ ᖃᒥᕐᕈᓃᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᓄᑦ ᐱᓕᕆᐊᖑᒃᑲᓂᓲᖅ ᐊᕐᕌᖑᑕᓖᑦ ᐊᑕᖏᖅᔪᒋᑦ ᐊᑯᓂᖅᓱᖅᑐᓄᑦ ᐊᒻᒪ ᖁᕝᕙᓯᒃᑐᓄᑦ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑐᓄᑦ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᔪᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᓄᑦ ᐊᒻᒪ ᐱᒋᐊᕈᑎᓄᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓄᑦ, ᐊᒻᒪ ᐊᒃᐸᓯᒃᑐᓄᑦ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑐᓄᑦ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᐊᕿᒍᓂ ᐱᑕᖃᕐᓂᕿᙵᑦ ᓇᓗᓇᐃᖅᑕᐅᔪᓂᒃ, ᓄᑖᙳᕆᐊᖅᑕᐅᖁᓪᓗᒋᑦ ᑐᓴᐅᒪᔾᔪᑎᑦ ᐆᒪᔪᓄᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᓄᑦ. ᑲᑎᑕᐅᓂᖏᑦ ᖃᐅᔨᓴᕈᑎᑦ ᐊᑐᓂ ᐆᒪᔪᓄᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᓄᑦ ᕿᒥᕐᕈᔭᐅᖃᑦᑕᖅᑐᑦ ᓇᓗᓇᐃᕈᑎᓄᑦ ᐊᓯᔾᔨᐅᑎᐅᑐᐃᓐᓇᕆᐊᓕᙵᓄᑦ ᐅᓄᕐᓂᖏᓐᓄᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓯᐊᒻᒪᒃᓯᒪᓂᖏᓐᓄᑦ ᕿᙳᐊᓂ ᑐᓚᒃᑕᕝᕕᖏᕈᔪᒃ, ᐊᒻᒪ ᖃᓄᐃᓕᖓᓂᖏᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᑕᒪᒃᑯᓄᖓ ᐊᒃᑐᐊᔪᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᕿᒥᕈᓕᖅᑭᒃᑕᐅᓪᓗᑎᒃ. ᑕᒪᓐᓇ ᓴᖅᑮᑐᐃᓐᓇᕆᐊᓕᒃ ᐊᓯᔾᔨᖅᓯᒪᙱᑦᑐᓂᒃ ᖃᓄᐃᓕᖓᓂᐅᔪᓂᒃ, ᐊᓯᔾᔨᐅᑎᓂᒃ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑐᑦ ᖃᓄᑎᒋᐅᓂᖏᓐᓄᑦ, ᐱᖅᑕᐅᓗᑎᒃ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᔪᓂᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓂ, ᐅᕝᕙᓘᓐᓃᑦ ᑎᑎᕋᖅᑕᐅᓗᑎᒃ ᐱᒋᐊᕈᑕᐅᔪᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᓄᑦ.

2024- ᒥ ᖃᐅᔨᓴᕐᓂᕐᒥ ᖃᐅᔨᔭᐅᔪᑦ 54 ᓄᑖᑦ ᐃᓚᔭᐅᔪᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᓈᓴᖅᑕᐅᓯᒪᓂᖏᑦ ᕿᙳᐊᓄᑦ (ᓲᕐᓗ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᑦ ᐅᔾᔨᕆᔭᐅᓯᒪᙱᑦᑐᑦ ᑭᖑᓂᖒᑦᑎᓐᓂ ᖃᐅᔨᓴᕐᓂᐅᔪᓂ). ᐊᒥᓲᓂᖅᓴᑦ ᓄᑖᑦ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᐊᑐᖅᑕᐅᓯᒪᔪᑦ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᐊᓂ ᐅᕝᕙᓘᓐᓃᑦ ᐊᔾᔨᒌᙱᑦᑕᖅᑐᑦ ᐱᖃᓯᐅᔾᔨᔪᑦ ᐱᓕᕆᕝᕕᙴᕈᔪᒃ. ᑭᓯᐊᓂᓕ, ᑐᑭᒨᐊᒎᑕᐅᔪᑦ ᐅᖃᓕᒫᒐᕐᓂᒃ ᕿᒥᕐᕈᓃᑦ ᓄᑖᓂᒃ ᐅᔾᔨᕆᔭᐅᔪᑦ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ 2024-ᒥ ᓴᖅᑮᓯᒪᔪᑦ ᑕᓪᓕᒪᓂ ᐆᒪᔪᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᐃᓚᓕᐅᔾᔭᐅᓪᓗᑎᒃ ᐱᓕᕆᐊᒥ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᙱᓇᕋᓱᐊᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᖑᓇᓱᒃᑐᓄᑦ:

- ᖁᐱᕈᑰᑦ (Chaetozone anasima) ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᐃᖅᑲᖓᓂ ᖃᐅᔨᓴᒃᓴᓂ ᐊᒻᒪ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᓪᓗᓂ ᕿᒥᕈᔭᐅᓂᕐᒧᑦ ᐱᔾᔪᑕᐅᓗᓂ ᐱᑕᖃᑦᑎᐊᙱᓐᓂᖕᒪᓄᑦ ᓇᓃᖃᑦᑕᕐᓂᙱᓐᓂᓄᑦ ᓇᓗᓇᐃᔭᐅᑏᑦ ᐱᖃᓯᐅᔾᔨᓯᒪᔪᑦ ᑲᓇᖕᓇᙱᓂ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᐊᓂ. ᖁᐱᕈᑰᒃ ᑕᑯᔭᐅᕙᔪᒃᑐᑦ ᕿᙳᐊᓂ ᑕᐃᒪᙱᓐᓂᑦ ᐱᒋᐊᕈᑕᐅᔪᑦ ᖃᐅᔨᓴᕈᑏᑦ ᐱᒋᐊᖅᑕᐅᓯᒪᓕᖅᑎᓪᓗᒋᑦ ᑭᓯᐊᓂᓕ ᒫᓇᕋᑖᖅ ᐆᒪᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᑦ ᓴᖅᑭᑕᐅᓯᒪᓂᖏᑦ ᐱᔪᓇᖅᓯᑎᑦᑎᓯᒪᔪᑦ ᐋᖅᑭᐊᑦᑎᐊᕈᑎᓂᒃ ᐃᓚᖏᓐᓄᑦ ᐆᒪᔪᓄᑦ ᐊᔾᔨᒌᙱᐊᕐᔪᒃᑐᓄᑦ. ᖃᐅᔨᓴᕈᒃᓴᓕᐊᕐᒍᔪᑦ ᑲᑎᑕᐅᔪᑦ 224-ᒥ ᐊᒻᒪ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᖁᐱᕈᑰᑦ (Chaetozone anasima) ᓴᖅᑮᑐᐃᓐᓇᕆᐊᓖᑦ ᐋᖅᑭᐊᖅᓯᒪᔪᓂᒃ ᑭᖑᓂᖒᑦᑎᓐᓂ ᓇᓗᓇᐃᔭᖅᑕᐅᓯᒪᔪᓂ, ᐃᒪᓐᓇᐅᙱᑦᑐᖅ ᓄᑖᑦ ᓇᓗᓇᐃᔭᖅᑕᐅᓗᑎᒃ

ᕿᙵᒍᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ. (Chaetozone anasima) ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᔪᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᓄᑦ ᐊᒃᐸᓱᒃᑐᒥᒃ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑑᓪᓗᓂ ᐅᔾᔨᖅᓱᖅᑕᐅᔾᔭᑕᐅᓪᓗᓂ.

- ᐆᔭᐅᔭᑦ ᑕᑭᔪᑯᑖᑦ ᐊᖅᑲᔭᑦ (Chaetomorpha sp. 3GWS) ᓇᓗᓇᐅᔭᖅᑕᐅᓯᒪᙱᑦᑐᖅ ᐆᒪᔪᓂ ᐊᕙᒃᑐᖅᓯᒪᔪᓂ ᑭᖑᓂᑦᑎᐊᙵᒍᑦ ᖃᐅᔨᓴᕋᒃᓴᐃᑦ ᐱᔭᐅᓚᐅᖅᑎᓪᓗᙱᑦ ᕿᙵᒍᐊᓂ. ᑐᓴᐅᒪᔾᔪᑎᒥᒃ ᐊᑐᐃᓐᓇᖅᑕᖅᓯᒪᙱᑦᑐᖅ ᑖᔅᓱᒧᙵ ᐆᒪᔪᑦ ᐊᕙᒃᑐᖅᓯᒪᔪᓄᑦ, ᐊᒻᒪ ᐅᔾᔨᖅᓲᑕᐅᓪᓗᓂ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᖅ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᔪᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᓄᑦ ᐊᒃᐸᓱᒃᑐᒥᒃ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑑᓪᓗᓂ ᐆᒪᔪᓂ ᐊᕙᒃᑐᖅᓯᒪᔪᓂ.

- ᒥᑭᔫᒻᒪᓇᖕᓂᒃ ᖃᐅᔨᓴᕐᓂᖅ ᕿᙵᒍᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ ᐊᖅᑲᔭᓂᒃ ᖃᐅᔨᓴᕋᒃᓴᓂᒃ ᓇᓗᓇᐃᖅᓯᔪᖅ ᐱᑕᖃᕐᓂᖓᓂᒃ ᐱᕈᖅᑑᖅᑰᔨᔪᑦ ᕿᖅᑯᐊᑦ (Desmarestia ligulata) ᑭᓯᐊᓂᓕ, ᓇᓗᓇᐃᖅᑕᐅᓯᒪᓂᖏᑦ ᐅᔾᔨᕆᔭᐅᕐᑯᔭᐅᓯᒪᔪᑦ ᐱᑕᖃᑐᐃᓐᓇᕆᐊᖃᕐᓂᖓᓂᒃ ᖃᐅᔨᓴᕐᕕᖕᒥ ᓱᕈᖅᓯᒪᔪᓂᒃ. ᑎᑎᕋᖅᑕᐅᓯᒪᔪᖅᑕᖃᙱᑦᑐᑦ ᑕᒪᒃᑯᓂᖓ ᐆᒪᔪᓂᒃ ᐊᔾᔨᒌᙱᑦᐊᔪᒃᑐᓂ ᐱᑕᖅᓂᕋᖅᑕᐅᓗᑎᒃ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᐊᓂ, ᐊᒻᒪ ᓴᖅᑮᔭᖅᐳᓂ ᐊᒃᓱᓪᓘᓐᓃᑦ ᐊᑕᐅᓯᕐᒥ ᑎᑭᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ (AIS) ᑎᑎᕋᖅᑕᐅᓯᒪᕚᙵᓂ, ᐊᒻᒪ ᑕᐃᒪᐃᓐᓂᖓᓄᑦ ᑕᒪᒃᑯᐊ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᑦᐊᔪᒃᑐᑦ ᐃᓕᔭᐅᓯᒪᔪᑦ ᓇᐅᑦᑎᖅᓱᕆᐊᓕᖕᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᓄᑦ ᐊᒃᐸᓱᒃᑐᒥᒃ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑑᓪᓗᓂ ᐅᔾᔨᖅᓱᖅᑕᐅᔾᔭᑕᐅᓇᓱᒃᐳᓂ.

- ᑭᖑᓂᓛᑦ ᐋᖅᑭᒃᓱᖅᑕᐅᕙᓪᓕᐊᓯᒪᔪᑦ ᑭᓕᐅᖅᑐᖅᑕᐅᓯᒪᔪᓂ ᐃᖅᑲᖓᓂ ᐊᒻᒪ ᐅᔭᖅᑲᓂ ᐊᒻᒪᓗ ᑭᖑᓂᐊᒍᑦ ᓇᓕᒧᓕᖅᑎᑕᐅᓚᐅᖅᑐᑦ ᐊᐅᐸᖅᑐᑦ ᐊᖅᑲᔭᑦ ᕿᖅᑯᐊᑦ (*Antithamnion sparsum*), ᑕᕆᐅᑉ ᐊᑭᐊᓂ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᑦᐊᔪᒃᑐᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ ᑕᒫᓂᕐᒥᐅᑕᙱᑦᑐᑦ ᐆᒪᔪᕋᓛᑦ (NIS) ᓃᕙ ᔅᑰᓴᒧᑦ ᐊᒻᒪ ᐅᑭᐅᖅᑕᖅᑐᒦᑦᑐᓐᓇᕐᓂᖏᓐᓂᒃ ᑎᑎᖅᑕᐅᓯᒪᓇᑎᒃ. ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᐱᓕᕆᔾᔪᑏᑦ ᖃᐅᔨᓴᕋᒃᓴᓂᒃ ᑲᑎᖅᓱᐃᓐᓂᑦ, ᐋᖅᑭᒃᓯᒪᓂᖏᓐᓄᑦ ᓇᓗᓇᐃᖅᑕᐅᔪᓐᓇᓚᐅᙱᑦᑐᑦ. ᖃᐅᔨᓴᕐᕕᖕᒥ ᐃᓱᒪᒋᔭᐅᔪᑦ ᑕᒪᒃᑯᐊ ᖃᐅᔨᔭᐅᓯᒪᔪᑦ ᓴᓪᓗᓯᒪᓇᓱᒋᔭᐅᑐᐃᓐᓇᕆᐊᖃᕐᒪᑎᒃ, ᑭᓯᐊᓂᓗ ᐊᖅᑲᔭᐃᑦ (Antithamnion cf. sparsum) ᐅᔾᔨᖅᓲᑕᐅᓪᓗᑎᒃ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᕿᒥᕐᕈᔭᐅᒃᑲᓂᕆᐊᖃᕐᒪᑎᒃ ᐊᒻᒪ ᑎᑎᕋᖅᑕᐅᓯᒪᓕᖅᐳᓂ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᔭᕆᐊᖃᖅᑐᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᓄᑦ ᐊᒃᐸᓱᒃᑑᓗᓂ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑑᓪᓗᓂ ᐆᒪᔪᑦ ᐊᕙᒃᑐᖅᓯᒪᔪᓄᑦ.

  ᑭᓕᐅᖅᑐᐃᓂᖅ ᐃᖅᑲᖓᓄᐊᖅᓯᒪᔪᓂᒃ ᐸᓕᐊᓂᑦ ᓇᑭᙴᒪᙴᑕ ᓇᓕᒧᓕᖅᑎᑦᑎᓃᑦ ᑖᒃᑯᓄᖓ ᕿᖅᑯᐊᕋᓛᓄᑦ (Polysiphonia kapraunii), ᓘᓐᓇᖃᑖᖅ ᓇᓗᓇᐃᔭᖅᑕᐅᓯᒪᓕᖅᑐᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᑦᐊᔪᒃᑐᑦ ᓄᐊᑦ ᑭᐅᕈᓚᐃᓇᒥ. ᓇᑭᙴᕐᓂᖏᓐᓄᑦ ᐱᓕᕆᓃᑦ ᓴᖅᑮᓯᒪᔪᑦ ᐃᓚᖓᓂᒃ ᓇᓗᓇᕐᓂᖓᓄᑦ ᐆᒪᔪᑦ ᐊᕙᒃᑐᖅᓯᒪᔪᑦ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᓂᕆᕙᒃᑕᖏᑦ, ᓇᓗᓇᐃᖅᓯᓪᓗᑎᒃ ᐋᖅᑭᒃᐸᓪᓕᐊᖅᑲᑦᑕᖅᑐᑦ ᐃᓛᒃᑰᕌᕐᔪᒃᐳᑎᒃ ᖃᓂᒋᔭᖃᓪᓚᕆᒃᐳᑎᒃ ᐊᒃᑐᐊᓂᓕᖕᓄᑦ ᐆᒪᔪᓄᑦ ᐊᔾᔨᒌᙱᑦᐊᔪᒃᑐᓄᑦ ᐊᔾᔨᒌᒃᑕᙱᓐᓂᖅᓴᐅᔪᓄᑦ, ᐊᒻᒪ ᓇᒥᓂᖅᓱᖅᑑᓗᑎᒃ ᐆᒪᔫᓗᑎᒃ ᐊᔾᔨᕆᔭᐅᙱᑦᐊᔪᓪᓗᑎᒃ. ᓇᓗᓇᐃᔭᐃᓂᖅ 2024-ᒥ ᐃᓱᒪᒋᔭᐅᓯᒪᙱᒃᑲᓗᐊᖅᐳᓂ ᓴᓪᓗᓯᒪᑐᐃᓐᓇᕆᐊᖃᕐᓂᖏᓐᓂᒃ, ᖃᐅᔨᔭᐅᔪᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᓇᓗᓇᖅᑑᓂᕋᖅᓯᒪᓪᓗᑎᒃ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ ᐱᓕᕆᔾᔪᑏᑦ ᑭᓪᓕᖅᑲᕐᓂᖏᓐᓄᑦ ᓇᓗᓇᐃᖅᓯᓂᕐᒧᑦ ᑖᒃᑯᓇᓂ ᐊᔾᔨᕐᐸᓗᓪᓚᕆᙶᓂ ᐆᒪᔪᓂ ᐊᔾᔨᒌᙱᑦᐊᔪᒃᑐᓂ. ᐱᑕᖃᑦᑎᐊᙱᓐᓂᖏᓐᓄᑦ ᐊᔾᔨᕐᐳᔾᔭᖅᑐᑦ ᓇᓗᓇᐃᔭᐅᑏᑦ ᐱᖁᓯᐅᔾᔨᓯᒪᔪᑦ ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᕆᐅᙵᓂᒃ, ᕿᖅᑯᐊᕋᓛᑦ (*Polysiphonia kapraunii),* ᓇᓗᓇᐃᖅᑕᐅᓚᐅᖅᑐᑦ ᕿᒥᕐᕈᔭᐅᒃᑲᓂᕆᐊᖃᕐᒪᑎᒃ ᐊᒻᒪ ᑎᑎᕋᖅᑕᐅᓪᓗᑎᒃ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᔭᕆᐊᓕᖕᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᓄᑦ ᐊᒃᐸᓱᒃᑐᒥᒃ ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑑᓪᓗᑎᒃ ᐆᒪᔪᑦ ᐊᕙᒃᑐᖅᓯᒪᔪᓂ ᐅᔾᔨᖅᓲᑕᐅᓗᓂ.

ᖄᒃᑲᓂᐊᒍᑦ, ᑕᒫᓂᕐᒥᐅᑕᙱᑦᑐᑦ ᐆᒪᔪᕋᓛᑦ ᐊᔾᔨᒌᙱᑦᐊᔪᒃᑐᑦ/ᑎᑭᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᓂᒃ (NIS/AIS) ᖃᐅᔨᓴᖅᐸᓪᓕᐊᙱᓇᕐᓃᑦ 2024-ᒥ ᑲᑎᑕᐅᓚᐅᖅᑐᑦ ᐊᑕᐅᓯᖅ ᐆᒪᔪᑦ ᐅᔾᔨᒌᙱᑦᐊᔪᒃᑐᑦ ᐃᓕᔭᐅᓪᓗᓂ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᔪᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᓄᑦ ᑭᖑᓂᖕᖔᑦᑎᓐᓂ ᐊᕐᕌᒍᓄᑦ ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᓇᓗᓇᕐᓂᖏᓐᓂᒃ ᐃᓂᒥᓃᑐᐃᓐᓇᖅᑎᓪᓗᙱᑦ ᐊᒻᒪ ᓲᖃᐃᒻᒪ ᑎᑎᕋᖅᑕᐅᓯᒪᓂᖓᓄᑦ ᐱᑕᖅᐸᙱᖅᑐᓄᑦ ᑎᑭᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᓂᒃ (AIS) ᑎᑎᕋᖅᑕᐅᓯᒪᕚᙵᓄᑦ (ᑖᓐᓇ ᖁᐱᕐᕈᑖᒃ (polychaete *Paramphitrite birulai).* ᑖᓐᓇ ᐆᒪᔪᖅ ᐊᔾᔨᒌᙱᑦᐊᔪᒃᑐᖅ ᑭᖑᓂᖕᖔᑦᑎᓐᓂ ᓇᒃᓯᐅᔾᔭᐅᓯᒪᔪᖅ ᐃᓛᒃᑯᑦ ᓇᓗᓇᐃᖅᑕᐅᕐᑯᓪᓗᒍ ᐱᓕᕆᔨᓪᓚᑦᑖᓄᑦ ᐊᒻᒪ ᓄᑖᓄᑦ ᑲᑎᑕᐅᓯᒪᔪᓄᑦ ᖃᐅᔨᓴᕋᒃᓴᓄᑦ ᑐᓂᔭᐅᕚᓂᒃᓯᒪᙱᑦᑐᑦ ᖄᒃᑲᓂᐊᒍᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᑦᐊᔪᒃᑐᑦ ᓇᓗᓇᐃᖅᑕᐅᓪᓚᑦᑖᕈᑎᖏᓐᓄᑦ ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᑦᐊᔪᒃᑐᑦ ᑭᖑᓂᖕᖔᑦᑎᓐᓂ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᓄᑦ. ᓇᓃᖅᑲᑦᑕᕐᓂᖅᑎᑦ ᐊᒥᓲᓂᕐᒥᓗ ᖁᐱᕐᕈᑖᒃ (*P. birulai)* ᐱᔭᐅᓯᒪᔪᑦ 2024-ᒥ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᓐᓄᑦ ᑭᖑᓂᖕᖔᑦᑎᓐᓂ ᐊᕿᒍᓂ ᐊᒻᒪ ᑐᑭᑖᖅᑎᑕᐅᓯᒪᓪᓚᑦᑖᖅᑐᓂᒃ ᐃᓕᖅᑯᓯᖅᑕᖅᑲᙱᑦᑐᑦ ᐊᒥᓲᓂᖏᓐᓄᑦ ᓇᓃᖅᑲᑦᑕᕐᓂᖏᓐᓄᑦᑐᐃᓐᓇᕐᒥᑦ ᑕᐃᒪᙶᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᙱᑦᐊᔪᒃᑐᑦ ᓯᕗᓪᓕᖅᐹᒥ ᐅᔾᔨᕆᔭᐅᓚᐅᖅᑎᓪᓗᙱᑦ ᕿᙵᒍᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ ᖃᐅᔨᔾᔭᑕᐅᓇᓱᒃᑐᑦ ᑕᒫᓂᕐᒥᐅᑕᙱᑦᑑᖑᒐᓂ. ᐊᓯᐅᔨᑎᕆᙱᖅᑐᑦ ᑕᒪᑐᒧᖓ ᖃᓄᐃᓕᖓᓂᐅᔪᒧᑦ ᑖᔅᓱᒧᖓ ᐆᒪᔪᓄᑦ ᐊᕙᒃᑐᖅᓯᒪᔪᒧᑦ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᔪᓄᑦ ᑎᑎᕋᖅᑕᐅᕐᑯᔭᐅᓗᓂ. ᐆᒪᔪᖅ ᐊᕙᒃᑐᖅᓯᒪᔪᖅ ᐲᖅᑕᐅᓯᒪᓕᖅᑐᖅ ᓇᐅᑦᑎᖅᓱᖅᑕᐅᔪᓄᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓄᑦ 2024-ᒥ.

ᕿᒥᕐᓗᖃᖏᑦᑐᑦ ᖃᐅᔨᓴᕐᕕᖕᒥ ᑭᒡᒐᖅᑐᐃᔪᑦ ᑐᕌᒐᕆᔭᐅᔪᓂᒃ ᐆᒪᔪᓂᒃ ᐊᕙᒃᑐᖅᓯᒪᔪᓂᒃ, ᐱᖃᓯᐅᑎᓪᓗᒋᑦ ᖁᐱᕐᕈᑕᓖᑦ (*Marenzelleria* sp.), ᐊᑦᑕᑕᖅᓯᒪᓂᑦ, ᐊᒻᒪ ᐱᕈᓰᑦ ᐊᑦᑕᑕᖅᓯᒪᓪᓗᑎᒃ ᑲᑎᑕᐅᔪᑦ ᑭᓇᐅᓂᖏᓐᓂᒃ ᖃᐅᔨᔭᐅᓇᓱᐊᖅᖢᑎᒃ 2023-ᒥ ᓇᒃᓯᐅᔾᔭᐅᓚᐅᖅᑐᑦ CCDB-ᑯᓐᓄᑦ ᐋᖅᑭᒃᓱᖅᑕᐅᕐᑯᓪᓗᒋᑦ. ᖃᐅᔨᔭᐅᔪᑦ ᖁᐱᕐᕈᑕᓗᓐᓄᑦ (*Marenzelleria* sp.), ᑲᑎᑕᐅᓯᒪᔪᑦ ᖃᓂᒋᔭᖕᒐᓂ ᑰᒪᓛᑉ ᓇᓕᒧᑦᑐᑦ ᐋᖅᑭᒃᓱᖅᑕᐅᓯᒪᔪᓄᑦ ᑖᒃᑯᓇᖕᓫᕋᓯᒋᔭᐅᓚᐅᖅᑐᓂ ᑯᐱᕐᕈᑕᓖᑦ (*Spio* sp.) ᐱᔭᐅᓯᒪᔪᑦ ᑕᐅᕙᖖᒐᑦ ᓴᕙᓪᐸᐅᕐᒥ 2018-ᒥ ᐊᒻᒪ ᑰᔾᔪᐊᕌᓗᖕᒥ 2008-ᒥ, ᑭᓯᐊᓂᓕ ᐊᓱᔾᔨᖅᐸᓪᓕᐊᕙᖕᓂᖏᓐᓄᑦ ᐋᖅᑭᒃᓱᖅᑕᐅᕙᓪᓕᐊᓲᓐᓄᑦ ᐃᓕᔭᐅᓪᓗᓂ ᕿᓐᖑᐊᓂ ᖃᐅᔨᓴᕐᕕᒃᓴᖅ ᒥᒃᓴᐅᑦᑎᓯᒪᓂᖅᓴᐅᔾᓗᓂ ᖁᐱᕐᕈᑕᓂᒃ (Marenzelleria) ᑖᒃᑯᓐᓇᖓᐅᖏᑦᑐᑦ ᖁᐱᕐᕈᑕᓂ (Spio). ᐆᒪᔪᑦ ᐊᕙᒃᑐᖅᑕᐅᓯᒪᔪᓄᑦ ᖃᐅᔨᓴᕐᕕᒃ ᓇᓗᓇᐃᖅᓯᔪᖅ ᑕᒪᓐᓇ ᓴᖅᑭᓯᒪᑐᐃᓐᓇᓇᐊᓕᒃ ᓇᓗᓇᐃᔭᑦᑎᐊᖅᑕᐅᓯᒪᖏᓐᓂᖏᓐᓄᑦ ᖃᐅᔨᒋᐊᕐᕕᐅᔪᓐᓇᖅᑐᑦ ᖃᐅᔨᓴᕐᕕᖕᒋᑦ ᑕᐃᑲᓂ CCDB-ᑯᑦ ᑐᖅᑯᐃᕝᕕᖏᓐᓂ. ᒥᒃᓴᐅᑦᑎᓯᒪᓂᖅᓴᐅᓪᓗᑎᒃ ᑭᓇᐅᔾᔪᓯᖏᓐᓄᑦ ᖃᐅᔨᓴᕐᕕᒃᓴᓄᑦ ᑲᑎᑕᐅᓯᒪᔪᓄᑦ ᑕᐅᕙᓂ ᑲᓇᖕᓇᖕᒐᓂ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᓂᐊ/ᐅᑭᐅᖅᑕᖅᑐᖅᐸᓯᖕᒥ ᐱᓕᕆᐊᖅ ᐊᐅᓚᓂᖃᓯᒋᐊᖅᑳᖅᑎᓐᓇᒍ ᐃᒪᐃᓐᓇᓱᒋᓈᔪᖅ ᕿᙵᐊᓂ ᖃᐅᔨᓴᕐᕕᖕᒋᑦ ᑭᒡᒐᖅᑐᐃᖏᑦᑐᑦ ᐆᒪᔪᓂ ᐊᕙᒃᑐᖅᓯᒪᔪᓄᑦ ᐃᓱᒫᓘᑕᐅᔪᑦ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ ᐃᓱᒪᒋᔭᐅᓇᑎᒃ ᓇᓗᓇᐃᖅᑕᐅᓂᖏᑦ ᓇᓗᓇᐃᖅᑕᐅᔾᔪᑎᖏᓐᓄᑦ ᖁᐱᕐᕈᑕᑦ (Spio). ᐅᕝᕙᓘᓪᓚᓃᑦ ᖁᐱᕐᕈᑕᑦ (Marenzelleria sp.). ᕿᙵᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ ᖃᐅᔨᓴᕐᕕᖕᒋᑦ ᓇᒃᓯᐅᔾᔭᐅᓚᐅᖅᑐᑦ ᓘᒃᑖᖅ ᕚᓯᓕ ᕋᑕᓯᑉᐱ ᐅᓛᓯᐊᒥ ᑭᒡᓕᓯᓂᐊᕐᓂᕐᒧᑦ ᐱᓕᕆᕝᕕᒃ ᑕᕆᐅᒥ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᕝᓛᑎᕗᒃᑖᒃᒥ, ᓄᓇᕐᔪᐊᒥ ᖃᐅᔨᒪᔪᒻᒪᕆᒃ ᖁᕕᕐᕈᑕᓗᓐᓄᑦ ᐊᑐᖅᓯᒪᓪᓗᑎᒃ ᒥᑭᔪᕋᓛᓂᒃ ᓇᓗᓇᐃᔭᐅᑎᖃᖅᖢᑎᒃ ᖁᕕᕐᕈᑕᓗᓐᓄᑦ (Marenzelleria) ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᓂᐊ. ᓘᒃᑖᖅ ᕋᑕᓯᑉᐱ ᓇᓕᒧᓕᖅᑎᑦᑎᓯᒪᔪᖅ 2023-ᒥ ᑎᑎᕋᖅᑕᐅᕙᓪᓕᐊᔪᓄᑦ ᖁᐱᕐᕈᑕᓂᒃ (Marenzelleria wireni), ᐆᒪᔪᑦ ᐊᔾᔨᒌᖏᑦᑐᐊᕐᔪᒃᑐᑦ ᓇᓗᓇᐃᖅᓯᓯᒫᓂᒃᑐᑦ ᒥᑭᑦᑑᑎᒻᒪᕇᑦ ᑐᑭᖃᖅᑐᖅ ᐱᑕᖃᑦᑕᕐᓂᖏᓐᓂᒃ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ. ᑭᓇᐅᔾᔪᓯᖏᓐᓄᑦ ᑎᑎᕋᖅᑕᐅᕙᓪᓕᐊᕙᒃᑐᑦ ᐊᑦᑕᑕᖅᐸᒃᑐᑦ ᖃᐅᔨᓴᕐᕕᖕᒋᑦ ᓴᖅᑮᓯᒪᔪᑦ ᓇᓗᓇᐃᔭᖅᑕᐅᓂᖏᑦ ᒪᕿᒃ ᐆᒪᔪᑦ ᐊᔾᔨᒌᖏᑦᑐᐊᕐᔪᒃᑐᑦ: ᐃᒃᐱᐊᕐᔫᔭᖃᖅᑐᑦ (Ascidia callosa) ᐊᒻᒪ ᑯᒪᕈᕋᓛᑦ (Boltenia echinata). ᐃᒃᐱᐊᕐᔫᔭᖃᖅᑐᑦ (Ascidia callosa) ᐊᒻᒪ ᑯᒪᕈᕋᓛᑦ (Boltenia echinata) ᑎᑎᕋᖅᑕᐅᓯᒪᖃᑦᑕᖅᑐᑦ ᑲᓇᖕᓇᖕᒐᓂ ᑲᓇᑕᐅᑉ ᐅᑭᐅᖅᑕᖅᑐᓂᐊ ᐊᒻᒪ ᑭᖑᓂᖕᒑᑦᑎᓐᓂ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕐᕕᖕᒥ, ᐱᖃᓯᐅᔾᔭᐅᓯᒪᔪᑦ ᐱᒋᐊᕈᑕᐅᓯᒪᔪᓄᑦ ᖃᐅᔨᓴᕈᑏᑦ ᖃᐅᔨᓴᕈᑎᖏᓐᓄᑦ.

ᑭᖑᓪᓖᓪ-ᑭᖑᕚᕆᔭᐅᔪᑦ ᑎᑎᕋᖅᑕᐅᕙᓪᓕᐊᕙᒃᑐᑦ ᓴᖅᑮᔪᓇᓚᐅᖅᑐᑦ ᑎᑎᕋᖅᑕᐅᕙᓪᓕᐊᔪᓂᒃ ᑕᓪᓕᒪᓂᒃ ᐱᕈᖅᐸᒃᑐᓂᒃ (bryozoan) ᖃᐅᔨᓴᕐᕕᖕᓴᐅᔪᓂᒃ, ᖃᐅᔨᔭᐅᔪᑦ ᓇᓗᓇᐃᖅᑕᐅᓪᓚᕆᒍᓇᓚᐅᖏᑦᑐᑦ, ᓴᖅᑭᔮᖅᑎᑦᑎᓪᓗᑎᒃ ᑭᒡᓕᖃᖅᑐᓂᒃ ᐱᓕᕆᔾᔪᑎᑎᒍᑦ ᐊᒻᒪ ᑭᓇᐅᓂᕐᒧᑦ ᓇᓗᓇᐃᔭᐅᑏᑦ ᐅᑭᐅᖅᑕᖅᑐᒥ ᐱᕈᖅᐸᒃᑐᓂᒃ (bryozoan). ᑕᐃᒪᐃᓐᓂᖓᓄᑦ, ᖃᐅᔨᓴᕐᕕᖕᓂᒃ ᐋᖅᑭᒃᑕᐅᔪᖃᕈᓇᖅᓯᒪᒃᑲᓂᖏᑦᑐᖅ ᐆᒪᔪᓄᑦ ᐊᕙᒃᑐᖅᓯᒪᔪᓄᑦ ᖃᓄᑎᒋᐅᔪᓄᑦ ᐊᒻᒪ ᖃᓄᐃᓐᓂᖅᓴᐅᓂᖏᓐᓄᑦ ᕿᒥᕐᕈᓪᓗᒋᑦ ᐆᒪᔪᑦ ᐊᕙᒃᑐᖅᓯᒪᔪᑦ ᐃᓱᒪᒋᖃᓯᐅᔾᔭᐅᓇᑎᒃ ᓇᓗᓇᐃᔭᖅᑕᐅᓂᕐᒧᑦ ᕿᙵᐊᓂ ᑐᓚᒃᑕᕐᕕᖑᒧᑦ.

ᓇᐅᑦᑎᖅᓱᕐᓂᕐᒧᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᒧᑦ ᐃᓗᓕᖃᖅᑐᑦ ᖁᓕᓂᑦ ᐱᖓᓱᓂᓪᓗ ᐆᒪᔪᓂ ᐊᕙᒃᑐᖅᓯᒪᔪᓂ ᐊᒻᒪ ᐱᑕᖃᖏᓐᓇᓂ ᐆᒪᔪᓂᒃ ᐊᔾᔨᒌᖏᑦᑐᐊᕐᔪᒃᑐᓂᒃ ᐱᒋᐊᕈᑕᐅᔪᓇᖅᑐᓂᒃ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓂᒃ.

ᐹᕙᓛᓐᑯᑦ ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ (AIS) / ᑕᕕᓂᕐᒥᐅᑕᐅᖏᑦᑐᑦ ᐆᒪᔪᑦ (NIS) ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ ᑭᒡᒐᖅᑐᐃᔪᑦ ᐊᑕᖑᖏᓯᒪᔪᓂᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᕐᒧᑦ ᑕᕕᓂᕐᒥᐅᑕᐅᖏᑦᑐᑦ ᐆᒪᔪᑦ (NIS) / ᑎᑭᑉᐸᒃᑐᑦ ᐆᒪᔪᕋᓛᑦ (AIS) ᐱᓕᕆᐊᖑᔪᓯᒪᔪᑦ ᑐᓚᒃᑕᕐᕕᖕᓂ ᑲᓇᑕᒥ. 1,204-ᐸᓗᐃᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᖏᑦᑐᐊᕐᔪᒃᑐᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᕿᙵᐊᓂ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᖏᓐᓇᕐᓂᒃᑯᑦ ᐅᓪᓗᒥᒧᑦ, ᐱᖃᓯᐅᔾᔨᓯᒪᔪᖅ 499-ᓂᒃ ᐊᔾᔨᐅᖏᑦᑐᓂᒃ ᕿᖅᑯᐊᓂ, ᖁᐱᕐᕈᕋᓛᓂᑦ, ᐃᖅᑲᖓᓂ ᕿᒥᕐᓗᖃᖏᑦᑐᓂᒃ, ᐊᒻᒪ ᐃᖃᓗᐃᑦ ᐆᒪᔪᑦ ᐊᔾᔨᒌᖏᑦᑐᐊᕐᔪᒃᑐᓂ. ᓇᓗᓇᐃᖅᔭᖅᑕᐅᓂᖏᑦ ᐊᒻᒪ ᐅᓪᓗᓇᐊᓇᕈᓇᖅᑐᓂᒃ ᕿᒥᕐᕐᑯᓂᖅ ᐊᑐᓂ ᐆᒪᔪᑦ ᐊᔾᔨᒌᖏᑦᑐᐊᕐᔪᒃᑐᓂ Hᐊᓐᓇᓚᖏᓐᓃᑦᑐᓂ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᕿᙵᐊᓂ ᓇᓗᓇᐃᖅᓯᔪᑦ ᑕᒪᑐᒥᖓ ᓇᐅᑦᑎᖅᓱᐃᓐᓇᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᓄᑦ ᐊᑑᑎᖃᖅᓯᒪᔪᖅ ᐊᒻᒪ ᐊᐅᓚᓂᖃᖅᓯᒪᓪᓗᓂ ᑐᕌᒐᕆᔭᖑᓇᓄᑦ. ᐅᒥᓱᒻᒪᕆᑦ ᑕᒪᒃᑯᐊ ᐆᒪᔪᑦ ᐊᕙᒃᑐᖅᓯᒪᔪᑦ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᔪᑦ "ᐅᓗᕆᐊᓇᕈᓐᓇᖅᑐᖃᖏᓐᓇᓂ" ᐊᒻᒪ ᐃᓱᒪᒋᔭᐅᓪᓗᓂ ᐃᓱᒫᓗᑕᐅᓇᓱᒋᔭᐅᓇᓂ.

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ACRONYMS AND ABBREVIATIONS

Acronym or Abbreviation	Definition
AIS	Aquatic invasive species
BACI	Before/after control/impact
Baffinland	Baffinland Iron Mines Corporation
BC	British Columbia
BC MOE	BC Ministry of Environment and Climate Change Strategy
BOD	Biological oxygen demand
CCME	Canadian Council of Ministers of the Environment
CES	Critical effect size
CFIA	Canadian Food Inspection Agency
COPC	Constituent of potential concern
CPUE	Catch per unit effort
DFO	Fisheries and Oceans Canada
DL	Detection limit
DPF	Direct Project Footprint
ECCC	Environment and Climate Change Canada
EEM	Environmental Effects Monitoring
ERP	Early Revenue Phase
FA	Fishing area
FEIS	Final Environmental Impact Statement
GPS	Global positioning system
IPF	Indirect Project Footprint
ISQG	Interim Sediment Quality Guideline
K	Condition
LSA	Local study area
m	Metres
MDMER	Metal and Diamond Mining Effluent Regulations
MEEMP	Marine Environmental Effects Monitoring Program
MEWG	Marine Environment Working Group
mg/kg dw	Milligrams per kilogram dry weight
mg/kg ww	Milligrams per kilogram wet weight

Acronym or Abbreviation	Definition
MMP	Marine Monitoring Plan
Mtpa	Million tonnes per annum
N/A	Not applicable
NIRB	Nunavut Impact Review Board
NIS	Non-indigenous species
NIS/AIS	Non-indigenous species / aquatic invasive species
No.	Number
PAHs	Polycyclic aromatic hydrocarbons
PC	Project Certificate
PEL	Probable effect level
ROV	Remotely operated vehicle
SCUBA	Self contained underwater breathing apparatus
SDI	Simpson’s diversity index
SEM	Sikumiut Environmental Management Ltd.
TARP	Trigger Action Response Plan
TSS	Total suspended solids
UNB	University of New Brunswick
VEC	Valued Ecosystem Components
WQG	Water Quality Guideline

1.0 INTRODUCTION

Baffinland Iron Mines Corporation (Baffinland) completed its tenth consecutive year of the marine environmental effects monitoring program (MEEMP) and non-indigenous species/aquatic invasive species (NIS/AIS) monitoring program for the Mary River Project (the Project). This report presents the results for the 2024 field programs conducted in Milne Inlet during the open-water season. Both the MEEMP and NIS/AIS programs were originally developed in 2015 following completion of marine baseline studies in Milne Port during 2013 and 2014 and are intended to provide a primary means to identify and quantify potential Project-related changes in the marine environment. Where such changes occur, the programs assist in identifying appropriate modifications to, or mitigation of, Project operational activities to avoid and/or minimize potential adverse effects on the marine environment. Results from the MEEMP and NIS/AIS monitoring programs also provide information to the Nunavut Impact Review Board (NIRB) to support its annual review of the Mary River Project.

1.1 Project Context

The Project is an operating open pit iron ore mine owned by Baffinland and located in the Qikiqtani Region of North Baffin Island, Nunavut (Figure 1-1). The operating mine site is connected to Milne Port, located at the head of Milne Inlet, via the 100 km long Milne Inlet Tote Road.

The Project's Operating Certificate (Project Certificate 005) was issued by the Nunavut Impacts Review Board in 2012. In 2014, Baffinland received approval (Project Certificate 005, Amendment 1) to operate the Early Revenue Phase (ERP) of the Project. The ERP authorized Baffinland to transport 4.2 Mtpa (million tonnes per annum) of ore by truck to Milne Port for shipping through the Northern Shipping Route (encompassing Milne Inlet, Eclipse Sound, and adjacent water bodies) using chartered ore carrier vessels. Baffinland shipped ~918,000 tonnes of iron ore from Milne Port during the first year of ERP operations in 2015, 2.6 Mtpa in 2016, and 4.1 Mtpa in 2017. Following approval of production increases allowing Baffinland to ship 6.0 Mtpa in 2018-2022 (Amendments 2, 3 and 4), annual totals of 5.1 Mtpa (2018), 5.9 Mtpa (2019), 5.5 Mtpa (2020), 5.6 Mtpa (2021) and 4.7 Mtpa (2022) of iron ore were shipped from Milne Port. In 2023, Amendment 5 (Sustainable Operations Proposal) was approved, and will be in effect until December 31, 2024. This amendment allows a maximum of 6.0 Mtpa of iron ore to be transported on the Tote Road in any calendar year, but an additional 0.9 Mtpa of 'stranded ore' may be shipped in the 2023 and 2024 shipping seasons. 'Stranded ore' is defined as iron ore that was delivered to Milne Port in the previous year but was not shipped due to weather or other shipping constraints. Amendment 5 also set the maximum number of ore carriers as 84 ore carriers per year in the 2023 and 2024 shipping season. In 2023, 6.02 Mtpa of iron ore were shipped from Milne Port in 75 ore carriers. In 2024, a total of 6.05 million tonnes of iron ore were shipped via 70 return voyages with the first inbound transit of the season occurring on July 27, 2024 and the last outbound transit of the season occurring on October 26, 2024.

490000 500000 510000 520000 530000 540000 550000

8050000 8040000 8030000 8020000 8010000 8000000 7990000 7980000

KEY MAP

GREENLAND

RESOLUTE

Lancaster Sound

Baffin Bay

NORTHERN SHIPPING ROUTE

POND INLET

MILNE PORT

MINE SITE

NORTHERN TRANSPORTATION CORRIDOR

NUNAVUT INUIT SETTLEMENT AREA

BAFFIN ISLAND

IGLOOLIK

NUNAVUT

Foxe Basin

PANGNIRTUNG

KINNGAIT

IQALUIT

RANKIN INLET

Hudson Bay

QUEBEC

Eclipse Sound

Ragged Island

Milne Inlet

Stephens Island

Bruce Head

Koluktoo Bay

Poirier Island

SEE DETAIL MAP

Phillips Creek

DETAIL MAP - MILNE PORT/LOCAL STUDY AREA

Milne Inlet

0 1,000 2,000

1:50,000 METRES

0 5 10

1:250,000 KILOMETRES

LEGEND

- PROJECT LOCATION
- SHIPPING ROUTE
- TOTE ROAD
- WATERCOURSE
- INFRASTRUCTURE
- ORE DOCK
- FREIGHT DOCK AND CAUSEWAY
- INAC FORESHORE LEASE
- LOCAL STUDY AREA
- NUNAVUT SETTLEMENT AREA
- PDA / QIA COMMERCIAL LEASE
- WATERBODY

REFERENCE(S)

LOCAL STUDY AREA BOUNDARY DIGITIZED FROM THE MARY RIVER PROJECT FINAL ENVIRONMENTAL IMPACT STATEMENT (FEBRUARY 2012). FREIGHT DOCK DATA PROVIDED BY CLIENT, MAY 21, 2020. ADDITIONAL MILNE PORT INFRASTRUCTURE PROVIDED BY CLIENT, MAY 28, 2018 AND PROVIDED BY HATCH, JANUARY 25, 2017, RETRIEVED FROM KNIGHT PIESOLD LTD. FULCRUM DATA MANAGEMENT SITE MAY 19, 2017. HYDROGRAPHY AND TOPOGRAPHY DATA BY EAGLE MAPPING (2005), RETRIEVED FROM KNIGHT PIESOLD LTD. FULCRUM DATA MANAGEMENT SITE, MAY 2017. HYDROGRAPHY, POPULATED PLACE, AND PROVINCIAL BOUNDARY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

TITLE
PROJECT LOCATION

CONSULTANT

YYYY-MM-DD	2025-04-30
DESIGNED	CB
PREPARED	AA
REVIEWED	CB
APPROVED	AL

PROJECT NO.	CONTROL	REV.	FIGURE
CA0026317.6821	86200.04	0	1-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

0 25mm

1.2 Background

As a part of regulatory commitments, Baffinland has developed and implemented a multi-disciplinary Marine Environmental Effects Monitoring Program (MEEMP). The MEEMP is designed to evaluate potential Project-related effects on the marine environment as predicted in the Final Environmental Impact Statement (FEIS) and FEIS addenda (Baffinland 2012, 2013); predictions, associated mitigation measures, and current status are presented in Table 1-1 below.

The MEEMP includes monitoring of marine water and sediment quality, invertebrates, vegetation, and fish and fish habitat. The MEEMP sampling design is generally based on the Metal Mining Environmental Effects Monitoring technical guidelines (Environment Canada 2012) and includes statistical approaches for detecting potential Project-induced impacts on the marine environment. NIS/AIS monitoring is an integral component of the MEEMP and is designed to address the potential risks of species introductions to the marine environment from ships' ballast water and hull biofouling.

Sikumiut Environmental Management Ltd. (SEM) was originally retained by Baffinland to design and implement the MEEMP. The MEEMP program was first implemented in 2015, at which time monitoring efforts focused primarily on further characterization of baseline conditions in Milne Port prior to commencement of Project operations in 2015 (SEM 2015). Environmental effects monitoring was completed by SEM in 2015 and 2016 (SEM 2015, 2016). Golder Associates Ltd. (now known as WSP Canada Inc.) completed environmental effects monitoring from 2017 through 2024, which included modifications to the 2015-2016 MEEMP and NIS/AIS sampling design to better address the objectives of the programs. Modifications to study design since 2015 are outlined in Section 1.5.3.1.

1.3 Objectives

This report presents the results of the MEEMP and NIS/AIS monitoring programs conducted in Milne Inlet during the 2024 open-water season.

In accordance with existing Terms and Conditions of Project Certificate (PC) No. 005, Baffinland is responsible for the establishment and implementation of the MEEMP, which comprises monitoring studies that are conducted over a defined time period with the following objectives:

- Assess the accuracy of effects predictions in the FEIS (Baffinland 2012) and subsequent addenda.
- Assess the effectiveness of Project mitigation measures.
- Verify compliance of the Project with regulatory requirements, permits, standards, and policies.
- Identify unforeseen adverse effects and provide early warnings of undesirable changes in the environment.
- Improve understanding of local environmental processes and potential Project-related cause-and-effect relationships.
- Provide feedback to the applicable regulators (e.g., NIRB) and advisory bodies (e.g., Marine Environmental Working Group [MEWG]) with respect to the following:
    - Potential adjustments to existing monitoring protocols or monitoring framework to allow for the most scientifically defensible synthesis, analysis, and interpretation of data.
    - Considerations for the modification of operational practices where and when necessary.

Additionally, Baffinland committed that eight sampling stations (SW-1 through SW-4, SE18-1, SNW-1, and two new stations (SCV-1 and SCV-2) added in 2023) would be monitored for scouring effects on sediment and benthic infauna for three years after the initial use of large (Baby Cape and Capesize) ore carriers in fall 2023 (Commitment 10, SOP Technical Comment QIA ME-7(3); NIRB, 2023).

Table 1-1: Summary of Predictions from FEIS and subsequent addenda for Milne Port, Associated Mitigation Measures, and Current Status

Predictions				Relevant MEEMP Section	Current Status
VEC[1]	Activity	Impact/Significance	Associated Mitigation Measures		
Water and Sediment Quality	Barge and ship traffic to/from Milne Inlet	Negligible effects to total suspended solids (TSS), nutrient, or metal concentrations in the water or sediment due to resuspension of substrates from propeller currents; expected that the new equilibrium state will be reached early within the operation phase of the Project.	▪ Section 4.9 Sediment Erosion Control of the Environmental Protection Plan outlines measures such as use of silt curtains and drainage ditches, as well as treatment and testing of effluent/run-off prior to discharge, to mitigate potential effects to water and sediment quality (Baffinland 2021b). ▪ Emergency Response and Spill Contingency Plans outline measures to mitigate potential fuel spills (Baffinland 2020; Baffinland 2021c). ▪ Shipping and Marine Wildlife Management and Ballast Water Management plans outline measures to mitigate potential effects associated with vessel traffic such as a mandatory mid-ocean ballast water exchange and compliance with Anti-Fouling Systems	Chapter 2.0 Chapter 3.0 Chapter 5.0	No indications of impacted marine water or sediment quality. Measured metals concentrations are low, typically below applicable guidelines, and generally consistent with previous years. No observation of ore dust deposition in substrate. Grain size composition analysis indicates high spatial and temporal variability in fines content, driven by natural factors, as well as potential influences of vessel propeller wash, which is expected to stabilize over time. To date, 2020 was the only instance where reduced fines content was accompanied by a substantial reduction in benthic density, richness and diversity; Conditions at the affected station rebounded in 2021, 2022, and 2023 indicating effects are temporary and localized.
		No anticipated increases in hydrocarbon concentrations in water or sediments through normal vessel operations.			
	Discharge of ballast water	Open-water season: no anticipated effects to water or sediment quality.			
		Ice-cover season: increases in temperature and nitrate concentrations in the water; increases in nitrogen concentrations in the sediment; no anticipated changes in the concentrations of metals or other nutrients in water or sediment.			
	Dispersion and deposition of dust from the ore stockpile	Increases in concentrations of TSS and metals (primarily iron) in the water.			
		Increases in concentrations of metals (primarily iron) in the sediment.			
	Discharge of wastewater and site run-off	Increases in biological oxygen demand (BOD) and concentrations of TSS, nutrients, metals, and hydrocarbons in the water.			

Predictions				Relevant MEEMP Section	Current Status
VEC[1]	Activity	Impact/Significance	Associated Mitigation Measures		
		Increases in concentrations of nutrients, metals, and hydrocarbons in the sediment.	Convention (Baffinland 2021d; Baffinland 2019).		
Marine Fish Habitat	Habitat Alteration (Sediment introduction and resuspension)	Wastewater discharge and site runoff may introduce TSS into the water column, increasing the amount of fine-grained sediments in the immediate vicinity of the discharge point.	▪ Sediment and Erosion Control Plan (Section 4.9 of the Environmental Protection Plan) outlines measures such as use of silt curtains and drainage ditches, as well as treatment and testing of effluent/run-off prior to discharge, to mitigate potential effects to water and sediment quality (Baffinland 2021b). ▪ Emergency Response and Spill Contingency Plans outline measures to mitigate potential fuel spills (Baffinland 2020; Baffinland 2021c) ▪ Shipping and Marine Wildlife Management and Ballast Water Management plans outline measures to mitigate potential effects associated with vessel traffic such as a mandatory mid-ocean ballast water exchange and compliance with Anti-Fouling Systems Convention (Baffinland 2021d; Baffinland 2019).	Chapter 2.0 Chapter 3.0 Chapter 4.0 Chapter 5.0 Chapter 8.0	No indications of impacted marine sediment quality. Measured metals concentrations were low, typically below applicable guidelines, and/or generally consistent with previous years. No observance of ore dust deposition in substrate Generally, no evidence of altered benthic infauna, epifauna, or macroflora community composition or productivity. No consistent temporal and spatial trends that would be indicative of Project impacts. In 2020, one station, SW-2, showed signs of propeller wash effects (i.e., lower density and diversity metrics, accompanied by reduced fines content), conditions in 2021, 2022, and 2023 rebounded substantially, indicating that effects were temporary and localized.
		Potential increases in concentrations of TSS in the water column and accumulation of fines in the sediments could alter the nearshore habitat, although tidal fluxes are expected to disperse the effluents and minimize effects on habitat.			
	Habitat Alteration (Substrate alteration)	Sediment resuspension due to occasional (<1 per year) vessels and propeller-generated currents expected to lessen as fine-grained sediments on seabed are removed and seabed sediment composition stabilizes.			
		Removal of fine-grained sediments may alter benthic community composition.			
	Habitat Alteration (Noise disturbance)	Intermittent noise disturbance due to occasional vessel operations and loading activities.			
	Habitat Alteration (Fugitive ore dust deposition)	Fugitive ore dust deposition to marine environment.			
		Possible change to water and sediment chemistry and seabed grain size composition.			
		Possible change to benthic productivity.			

Predictions				Relevant MEEMP Section	Current Status
VEC[1]	Activity	Impact/Significance	Associated Mitigation Measures		
			▪ Minimize vessel operations to the extent possible. ▪ Mitigation by design and through compliance of Fisheries and Oceans Canada's (DFO) no net loss habitat policy.		
Arctic Char (*Salvelinus alpinus*) Health	Sediment Resuspension	Increases in concentrations of TSS, nutrients, and metals in the water column as a result of sediment disturbance from propeller currents are expected infrequently during operation. Short-term exposure of Arctic Char to these conditions has minimum potential to affect fish health.	▪ Sediment and Erosion Control Plan (Section 4.9 of the Environmental Protection Plan) outlines measures such as use of silt curtains and drainage ditches, as well as treatment and testing of effluent/run-off prior to discharge, to mitigate potential effects to water and sediment quality (Baffinland 2021b). ▪ Emergency Response and Spill Contingency Plans outline measures to mitigate potential fuel spills (Baffinland 2020; Baffinland 2021c). ▪ Shipping and Marine Wildlife Management Plan outline measures to mitigate potential effects associated with vessel traffic such as a mandatory mid-ocean ballast water exchange and	Chapter 6.0 Chapter 7.0	No indications of reductions in abundances of Arctic Char and other fish species associated with Project activities. Tissue concentrations of constituents of potential concern (e.g., aluminum, iron, magnesium, mercury, and selenium) displayed no notable trends over time, or were within FEIS predictions of low magnitude effects.
		The redistribution of sediments near the docks is not expected to directly affect fish health or condition.			
		Slight reductions in nutrient concentrations and short-term, localized increases water temperature in Milne Inlet are expected to have negligible effects on fish health and condition.			
		Metal concentrations in water and fish tissues are not expected to change.			
		Potential increases in metal and hydrocarbon concentrations in fish tissues and reductions in fish health and condition are possible as a result of release of site drainage (with elevated BOD and concentrations of TSS, nutrients, metals, and hydrocarbons) to the marine environment.			

Predictions				Relevant MEEMP Section	Current Status
VEC[1]	Activity	Impact/Significance	Associated Mitigation Measures		
		Combined effluents will be tested to ensure that they are not acutely toxic.	compliance with Anti-Fouling Systems Convention (Baffinland 2021d; Baffinland 2019).		

[1] VEC = Valued Ecosystem Component

The MEEMP was developed in consideration of the anticipated and potential Project-related impacts to the marine environment as identified in the 2012 FEIS and subsequent addenda (Baffinland 2012; 2013) as well as monitoring requirements outlined in several PC Terms and Conditions; relevant PC conditions are listed in Table 1-2 along with the chapters in which the conditions are addressed through the MEEMP-NIS/AIS program.

Table 1-2: PC Conditions Relevant to MEEMP Surveys[1]

PC Condition	Description	Relevant MEEMP Chapter(s)
76	The Proponent shall develop a comprehensive Environmental Effects Monitoring Program to address concerns and identify potential impacts of the Project on the marine environment. The Marine Environmental Effects Monitoring Program shall include: (a) A summary of the monitoring conducted by the Proponent to identify potential project effects in the marine environment; (b) The comparison of impact predictions provided by the Proponent in the Final Environmental Impact Assessment (FEIS), FEIS Addendum and/or any other assessments provided to the Board; (c) The identification of mitigation measures the Proponent has implemented to protect the marine environment; (d) Any adaptive management plans developed/implemented to prevent, manage or mitigate effects in the marine environment; (e) A discussion of how relevant Inuit Qaujimajatuqangit, scientific and/or technical knowledge and industry best practices have been incorporated into the Program and have informed the components of the Program; and (f) The identification of changes to the Program that may be required to ensure that potential adverse effects to the marine environment are prevented, that adaptive management occurs, and that mitigation measures are effective.	Chapter 2.0 Chapter 3.0 Chapter 4.0 Chapter 5.0 Chapter 6.0 Chapter 7.0 Chapter 8.0
1 and 83	The Proponent shall use GPS monitoring or a similar means of monitoring at both Steensby Port and Milne Port, with tidal gauges to monitor the relative sea levels and storm surges at these sites.	N/A
83(a)	The Proponent shall conduct hydrodynamic modelling in the Milne Inlet Port area to determine the potential impacts arising from disturbance to sediments including re-suspension and subsequent transport and deposition of sediment. The modelling results shall be used to update the marine water and sediment quality monitoring and mitigation program to include activities associated with the construction and mitigation of the Milne Inlet Port. In the 2023 Annual Report, the	Chapter 2.0 Chapter 3.0 Chapter 5.0 Chapter 7.0

[1] Conditions 76, 83(a), 85 and 99 as shown here were modified for the Sustaining Operations Proposal in 2023 by NIRB in Amendment 5 to the Project Certificate.

PC Condition	Description	Relevant MEEMP Chapter(s)
	Proponent is required to provide the Board with updates to the marine water and sediment quality monitoring and mitigation program necessary to reflect the increased use of larger ore vessels (Baby Cape and Capesize) at Milne Port. The monitoring program shall include an ongoing assessment of the potential introduction of metals that bio-accumulate in the marine food chain.	
84	The Proponent shall update its sediment redistribution modeling once ship design has been completed and sampling should be undertaken to validate the model and to inform sampling sites and the monitoring plan.	Chapter 3.0 Chapter 5.0
85	The Proponent shall develop a monitoring plan to verify its impact predictions associated with sediment redistribution resulting from propeller wash in shallow water locations along the shipping route. If monitoring detects negative impacts from sediment redistribution, additional mitigation measures will need to be developed and implemented. In the 2023 Annual Report, the Proponent is required to identify updates to the monitoring plan to reflect the increased use of large ore vessels (Baby Cape and Capesize) at Milne Port.	Chapter 3.0
86	Prior to commercial shipping or iron ore, use more detailed bathymetry collected from Steensby and Milne Inlets to model anticipated ballast water discharges from ore carriers. This information should be used to update ballast water discharge impact predictions and sampling should be conducted to validate the model.	N/A
87	The Proponent shall develop a detailed monitoring program at a number of sites over the long term to evaluate changes to marine habitat and organisms and to monitor for non-native introductions resulting from Project-related shipping. This program needs to be able to detect changes that may have biological consequences and should be initiated several years prior to any ballast water discharge into Steensby Inlet and Milne Inlet to collect sufficient baseline data and should continue over the life of the Project.	Chapter 2.0 Chapter 3.0 Chapter 4.0 Chapter 5.0 Chapter 6.0 Chapter 7.0 Chapter 8.0
89	The Proponent shall develop and implement an effective ballast water management program that may include the treatment and monitoring of ballast water discharges in a manner consistent with applicable regulations and/or exceed those regulations if they are determined to be ineffective for providing the desired and predicted results. The ballast water management program shall include, without limitation, a provision that requires ship owners to test their ballast water to confirm that it meets the salinity requirements of the applicable regulations prior to discharge at the Milne Port, and a requirement noting that the Proponent, in choosing shipping contractors will, whenever feasible, give preference to contractors that use ballast water treatment in addition to ballast water exchange.	Chapter 2.0 Chapter 8.0
91	The Proponent shall develop a detailed monitoring plan for Steensby Inlet and Milne Inlet for fouling that complies with all applicable regulatory requirements and guidelines as issued by Transport Canada, and includes sampling areas on ships where antifouling treatment is not applied such as the areas where non-native species are most likely to occur.	Chapter 8.0
99(a)	Establish shipping season, inter-annual baseline in Steensby Inlet and Milne Inlet that enables effective monitoring of physical and chemical effects of ballast water releases, sewage outfall, and bottom scour by ship props, particularly downslope and downstream from the docks. This shall include the selection and identification of physical, chemical, and biological community/indicator components. The biological indicators shall include both pelagic and benthic species but with emphasis on relatively sedentary benthic species (e.g., sculpins).	Chapter 2.0 Chapter 3.0 Chapter 4.0 Chapter 5.0 Chapter 6.0 Chapter 7.0 Chapter 8.0

PC Condition	Description	Relevant MEEMP Chapter(s)
99(b)(ii)	The collection of additional baseline data in Milne Inlet on narwhal (*Monodon monoceros*), bowhead whale (*Balaena mysticetus*) and anadromous Arctic Char abundance, distribution ecology and habitat use.	Chapter 6.0
99(c)	Enhance baseline data on marine wildlife (fish, invertebrates, birds, mammals, etc.) and to provide more details on species abundance and distribution found in the Project area.	Chapter 4.0 Chapter 5.0 Chapter 6.0 Chapter 8.0
113	The Proponent shall conduct monitoring of marine fish and fish habitat, which includes but is not limited to, monitoring for Arctic Char stock size and health condition in Steensby Inlet and Milne Inlet, as recommended by the MEWG.	Chapter 6.0 Chapter 7.0
114	In the event of the development of a commercial fishery in the Steensby Inlet area or Milne Inlet-Eclipse Sound areas, the Proponent, in conjunction with the Marine Environment Working Group, shall update its monitoring program for marine fish and fish habitat to ensure that the ability to identify Arctic Char stock(s) potentially affected by Project activities and monitor for changes in stock size and structure of affected stocks and fish health (condition, taste) is maintained to address any additional monitoring issues identified by the MEWG relating to the commercial fishery.	Chapter 6.0 Chapter 7.0
126	The Proponent shall design monitoring programs to ensure that local users of the marine area in communities along the shipping route have opportunity to be engaged throughout the life of the Project in assisting with monitoring and evaluating potential Project-induced impacts and changes in marine mammal distributions.	Chapter 4.0 Chapter 6.0

1.4 VECs and Indicators

1.4.1 VECs and Criteria for Magnitude Determination

The original MEEMP design in 2015 and 2016 was based on indicators and thresholds as presented in the FEIS, centred around three Valued Ecosystem Components (VECs): Marine Water and Sediment Quality, Marine Fish Habitat and Arctic Char Health.

Indicators used to determine the magnitude thresholds were based on guidelines, where available (Table 1-1). A reduction in productive capacity (measured as a proportion of lost or altered habitat to the total area of the Local Study Area[2], or LSA) was used as an indicator for the Marine Fish Habitat VEC (Baffinland 2012 and 2013). Thresholds were established based on degree of exceedance relative to guidelines. For certain parameters where no guidelines or quality criteria exist, the MEEMP used a significance criterion of two standard deviations of the baseline year as a threshold (Baffinland 2016).

The assessment predicted that Project activities may result in localized changes above threshold values for VECs, confined within the LSA. It was predicted that changes would not exceed thresholds for the Marine Fish Habitat VEC. All predicted residual environmental effects were rated as “Not Significant” since they were localized within the LSA (Table 1-1, Baffinland 2012 and 2013).

[2] The LSA includes all marine waters where there exists a reasonable potential for direct measurable effects from Project activities on the marine environment.

1.4.2 Indicators and Thresholds Currently Used for the MEEMP

Since 2016, the MEEMP and NIS/AIS program study design has evolved through consultation with regulatory agencies and Inuit organizations, as well as in response to recommendations made in previous survey years. Modifications to study designs are discussed in Sections 1.5.3.1 and 1.5.4.1. Changes to the program have also included updates or additions to the indicators and thresholds used to determine potential Project-related impacts to the environment in Milne Port. Sampling parameters and indicators are summarized in Table 1-3.

Several components of the MEEMP (e.g., marine water quality, marine sediment quality, benthic infauna, fish health) have indicators, thresholds and risk categories that are part of Baffinland's Trigger Action Response Plan (TARP), an adaptive management process (Baffinland 2021a; Baffinland 2023). In 2023, the categories of risk assessment used in the NIS/AIS program were adjusted to align with the TARP.

Indicators analysed for the MEEMP-NIS/AIS program are summarized in (Table 1-3), including those applicable to TARP, which are presented in more detail with their thresholds and risk categories in Table 1-4.

Table 1-3: Sampling Parameters and Indicators for the 2024 MEEMP and NIS/AIS Monitoring Program

MEEMP-NIS/AIS Program Component	Indicators	Context
Marine Water Quality	Metals[1] Total Suspended Solids[1] Nutrients[1] Hydrocarbons[1]	Temporal
Marine Sediment Quality	Percent Fines[1] Nutrients[1] Metals[1] Hydrocarbons[1]	Spatial Temporal
Benthic Invertebrates	Total Density[1] Taxa Richness[1] Simpson's Diversity Index[1] Simpson's Evenness Index[1]	Spatial Temporal
Substrate, Macroflora, and Epifauna	Percent Cover/Density Taxa Richness Simpson's Diversity Index	Spatial Temporal
Fish Population	Taxa Richness Relative Abundance Arctic Char Catch Per Unit Effort (CPUE) Total Fish Catch Per Unit Effort (CPUE)	Spatial Temporal
Fish Health	Survival Growth Condition[1] Reproduction	Spatial Temporal
Fish Tissue Chemistry	Metals[1] Polycyclic Aromatic Hydrocarbons (PAHs)	Spatial Temporal
NIS/AIS	Presence of NIS or AIS[1]	No Context

[1] Indicator is used in the TARP

The TARP uses effect indicators that are measured against a series of tiered thresholds (i.e., low, moderate and high-risk thresholds) (Table 1-4) that are designed to guide short-term and long-term adaptive management strategies as outlined in Baffinland (2023). Baffinland has updated the TARP as part of the revised draft Marine Monitoring Plan (MMP) (Baffinland 2023). The pre-defined actions identified in the TARP describe the responses that Baffinland would implement should the corresponding threshold levels be exceeded and assuming there is some degree of certainty that the measured change is Project-related. These responses range from increased monitoring and data analysis (e.g., trend analysis); identification of possible sources; to risk assessment and/or mitigation and are described in Baffinland (2023). As adaptive management is beyond the scope of the MEEMP-NIS/AIS monitoring program, only the draft indicators and thresholds are presented here (Table 1-4).

Table 1-4: Marine Environment Trigger Action Response Plan (TARP) Indicators, Condition Status, and Thresholds

(a) Water Quality

Component	Performance Indicators	Condition Status/Threshold		
		Low Risk	Moderate Risk	High Risk
Water Quality	▪ Metals ▪ TSS ▪ Hydrocarbons ▪ Nutrients	30-day mean concentration of a parameter is greater than 75% of an applicable CCME long-term guideline[1]. AND Effluent monitoring and spatial and temporal water quality data suggest a pattern indicative of effects from the Port's effluent discharge	Confirmed[2] exceedance of an effects benchmark or an applicable CCME long-term guideline[2] by a mean concentration. AND Effluent monitoring and spatial and temporal water quality data suggest that the confirmed increase in this parameter is related to the Port's effluent discharge.	To be determined based on outcome of moderate response investigations.

[1] Canadian Council of Minsters of the Environment (CCME) water quality guidelines for the protection of marine aquatic life. With the exception of silver, total suspended solids (TSS), and turbidity, these are long-term water quality guidelines intended to be applied to the average concentration at a receiving environment station collected over a 5-in-30 sampling program (i.e., average of 5 discrete samples collected over a 30-day period). In lieu of a long-term guideline for silver, the short-term guideline will be applied to discrete measured concentrations. The long-term guidelines for TSS and turbidity will be used.

[2] Confirmed indicates that the Risk Status/ Threshold trigger has been observed in at least two consecutive monitoring programs, whether during the regular monitoring schedule or confirmed through a special study.

(b) Sediment Quality

Component	Performance Indicators	Condition Status/Threshold		
		Low Risk	Moderate Risk	High Risk
Sediment Quality	▪ Particle Size ▪ Nutrients ▪ Metals ▪ Hydrocarbons	Measured concentrations of a parameter at one or more stations are > the CCME[2] ISQG or another relevant lower bound guideline, and are higher than background concentrations. AND Spatial and temporal sediment trend analysis suggest a pattern indicative of Port-related effects beyond FEIS[3] predictions.	Measured concentrations of a parameter at one or more stations are > the CCME PEL or another relevant upper bound guideline[1]. AND Spatial and temporal sediment trend analysis suggest a pattern indicative of Port-related effects beyond FEIS[3] predictions. AND Sediment toxicity testing as a special study indicates a Port-related effect.	To be determined based on outcome of moderate response investigations.

[1] TARP criteria were applied for the Capesize Vessel Sampling Program however there is a 2-year limitation in the data available for analysis (2023 [existing conditions] vs 2024 [Year 1]).

[2] Canadian Council of Minsters of the Environment (CCME 1999) sediment quality guidelines for the protection of marine aquatic life.

ISQG = Interim Sediment Quality Guideline; PEL = Probable Effect Level.

[3] Predictions made in the Final Environmental Impact Statement (FEIS; Baffinland 2012, 2013) and other submissions to the Nunavut Impact Review Board (NIRB) regarding effects on sediment quality, as applicable.

(c) Benthic Infauna

Component	Performance Indicators	Condition Status/Threshold		
		Low Risk	Moderate Risk	High Risk
Benthic Infauna	▪ Density ▪ Taxa Richness ▪ Simpson's Diversity Index ▪ Simpson's Evenness Index	Spatial and temporal trend analysis for density or taxa richness suggest a pattern indicative of Port-related effects beyond FEIS[2] predictions. AND Low Risk Status/Threshold is triggered for sediment.	Spatial and temporal trend analysis for density and taxa richness suggest a pattern indicative of Port-related effects beyond FEIS[2] predictions. AND Moderate Risk Status/Threshold is triggered for sediment.	To be determined based on outcome of moderate response investigations.

[1] TARP criteria were applied for the Capesize Vessel Sampling Program however there is a 2-year limitation in the data available for analysis (2023 [existing conditions] vs 2024 [Year 1]).

[2] Predictions made in the Final Environmental Impact Statement (FEIS; Baffinland 2012, 2013) and other submissions to the Nunavut Impact Review Board (NIRB) regarding effects on benthic infauna, as applicable.

(d) Fish health

Component	Performance Indicators[3]	Condition Status/Threshold		
		Low Risk	Moderate Risk	High Risk
Fish Health	Fourhorn Sculpin ▪ Age ▪ Size-at-age (i.e., total weight at age) ▪ Condition as relative weight (i.e., total weight at total length) ▪ Relative liver weight (i.e., liver weight at total weight) ▪ Relative gonad weight (i.e., gonad weight at total weight) *Hiatella arctica* ▪ Length-frequency analysis ▪ Whole animal wet weight ▪ Condition as relative weight (i.e., whole animal wet weight at total length) ▪ Relative shell weight (i.e., dry shell weight at total length) ▪ Relative gonad weight (i.e., gonad weight at whole animal wet weight)	A statistically significant difference ($P < 0.1$) in effect indicators[8] relative to the reference area and change is in direction that indicates an impairment to fish health and is of magnitude greater than or equal to a defined critical effect size (CES)[4] for that effect indicator.	Confirmed[5] Low Risk Status/ Threshold and mean/median[6] for the same effect indicator is beyond the baseline (FEIS) normal range[7] (if available) or regional normal range[8] AND Is supported by consistent effects in one or more other study components (i.e., water quality, sediment quality and benthic invertebrates) which links the results to the Project.	To be determined based on outcome of moderate response investigations.

[3] The following endpoints were included or excluded relative to the proposed TARP framework in order to better align the Fish Health and Tissue Chemistry monitoring program with the MDMER EEM program: Fourhorn Sculpin – age (included), length-frequency analysis (excluded).

[4] Definition of a magnitude of change that is indicative of impairment to fish health is based on the critical effect sizes defined by Environment and Climate Change Canada's (ECCC) Metal Mining Effluent Regulations Guidance Document (Environment Canada 2012) and refers to an increase or a decrease in fish health endpoints. Additional critical effect sizes may be defined in the future (i.e., beyond those defined by ECCC).

[5] Confirmed indicates that the Risk Status/ Threshold trigger has been observed in at least two consecutive monitoring programs, whether during the regular monitoring schedule or confirmed through a special study. For fish, the two or more endpoints that triggered the Moderate Risk Status/ Threshold may be in one species (i.e., two endpoints in one species) or two species (i.e., one endpoint in one species, as second endpoint in another species).

[6] The use of the mean or median will depend on the normality of the dataset used to calculate the normal range for each endpoint or tissue chemistry parameter (i.e., if raw or transformed data do not meet the assumptions of normality, the median will be used to provide an estimate of central tendency instead of the mean).

[7] Baseline (FEIS) normal range is based on the FEIS dataset, including operational monitoring data from Milne Inlet and Steensby Inlet, and includes fish length, weight and condition (K).

[8] Regional normal range will be calculated using all available reference area data (i.e., will include annual and ongoing reference area data as it becomes available).

Component	Performance Indicators[3]	Condition Status/Threshold		
		Low Risk	Moderate Risk	High Risk
Fish Tissue Chemistry	Primary constituents of Project iron ore: ▪ Aluminum ▪ Magnesium ▪ Iron Metals with the potential to bioaccumulation and biomagnify in the food web: ▪ Mercury ▪ Selenium	A statistically significant difference ($P < 0.1$) in one or more metals concentrations in a sentinel species relative to the reference area, and change is in the direction[9] that indicates impairment to fish health and is of magnitude[10] greater than or equal to the defined CES.	A confirmed[11] Low Risk Status/ Threshold for one or more metals that is also outside the regional normal range[12], and is supported by consistent effects in one or more other study components (i.e., water quality, sediment quality and benthic invertebrates) which links the results to the Project. OR The mean mercury or selenium concentrations (or ≥50% of the individual samples) in Arctic Char tissue chemistry samples are beyond the respective CFIA[13] or BC MOE[14] guidelines.	To be determined based on outcome of moderate response investigations.

CES = critical effect size; FEIS = Final Environmental Impact Statement; CFIA = Canadian Food Inspection Agency; BC MOE = British Columbia Ministry of Environment.

[9] For tissue chemistry, only an increase in concentration will be considered indicative of a toxicological response.

[10] For fish tissue chemistry parameters, the critical effect size is a difference of 100%.

[11] Confirmed indicates that the Action Status/Threshold trigger has been observed in at least two consecutive monitoring programs, whether during the regular monitoring schedule or confirmed through a special study.

[12] Regional normal range is anticipated to include Arctic Char tissue chemistry data from the FEIS (i.e., Milne Inlet and Steensby Inlet) as well as ongoing reference area tissue chemistry data (for *Hiatella arctica* and Fourhorn Sculpin).

[13] Value is 0.5 mg/kg ww total mercury per CFIA (2014) Canadian Food Inspection Agency Fish Products Standards and Methods Manual: Appendix 3 Canadian Guidelines for Chemical Contaminants and Toxins in Fish and Fish Products. Ottawa, ON.

[14] Protection of aquatic life chronic criteria for fish tissue selenium concentrations are 15.1 mg/kg dw for ovary, 8.5 mg/kg dw for whole body, or 11.3 mg/kg dw for skinless, boneless muscle fillet per USEPA (2016) Technical Support for Fish Tissue Monitoring for Implementation of EPA's 2016 Selenium Criterion Draft, EPA 820-F-16-007, United States Environmental Protection Agency, Office of Water.

(e) NIS/AIS

Component	Performance Indicator	Condition Status/Threshold		
		Low Risk	Moderate Risk	High Risk
NIS/AIS Monitoring Program (integrated in MEEMP)	Occurrence of an NIS/AIS in the Milne Inlet environment	Taxon is not reported from the Canadian Arctic, or reported with high uncertainty, or species is not associated with shipping vectors AND Taxon is not listed on AIS databases, or if listed (or in the case of higher taxon identification, with one or more representative species listed on an AIS database) the representative species is/are unlikely to establish in the Arctic (e.g., tropical/subtropical), or, if listed as introduced to an area with similar conditions, the species is cryptogenic to the area of potential introduction, AND Taxon is not showing invasive behaviours in Milne Inlet.	Taxon is not reported to be present in the Canadian Arctic, or reported with high uncertainty AND Taxon is capable of using shipping vectors AND Taxon is listed as an AIS in other areas, with no potentially serious behaviours reported in ecosystems similar to Milne Port AND Taxon has shown no invasive behaviours in Milne Inlet	Taxon is not reported to be present in the Canadian Arctic, or reported with high uncertainty AND Taxon is capable of using shipping vectors AND Taxon is listed as an AIS in other areas AND Taxon is well-documented as having potentially serious invasive behaviours in ecosystems similar to Milne Inlet, and/or has shown invasive behaviours in Milne Inlet.

1.5 Study Design

1.5.1 Study Area

Consistent with previous years, the 2024 MEEMP and NIS/AIS field surveys were conducted primarily within the LSA for the Marine Environment as defined in the FEIS and Addendum 1 (Baffinland 2012; 2013). The LSA includes all of Milne Port (Assomption Harbour) and extends north up to 4 km from the existing terminal (spanning the full width of Milne Inlet at the northern boundary; Figure 1-2). The southeast boundary of the LSA ends at the mouth of Phillips Creek.

In 2019, following feedback provided from MEWG members and the community during 2016 community workshops, additional NIS/AIS and physical oceanographic monitoring was conducted north of the LSA boundary extending to Ragged Island and Eclipse Sound (Figure 1-1). No sampling was conducted at Ragged Island in 2024 due to logistical constraints.

1.5.2 Inuit Participation

Inuit personnel have been integral to the overall success and safe execution of Baffinland's monitoring programs to date. The success of the MEEMP-NIS/AIS program is greatly reliant on local expertise/knowledge and the continued participation of Inuit stakeholders with respect to study design, program implementation, and field logistics. For the 2024 MEEMP program, Inuit participation included field technicians supporting sampling and processing for the various components.

1.5.3 MEEMP

The MEEMP was initially designed in 2015 to evaluate potential Project-related impacts on the marine environment as predicted in the FEIS and subsequent addenda (Baffinland 2013). The original sampling design for the MEEMP (Baffinland 2016; SEM 2015) was based on a radial gradient transect design extending out from the ore dock (Figure 1-2), which represented a potential point source for contaminants (e.g., ore dust, hydrocarbon release, wastewater, and site runoff) and physical perturbations (e.g., sediment re-suspension and transportation). The radial pattern was designed to detect potential Project-related effects based on a gradient of key components with numerical indicators (e.g., metal concentrations in sediment) along a series of transects with increasing distance from the point source.

The initial MEEMP design (excluding NIS/AIS monitoring) comprised the following study components:

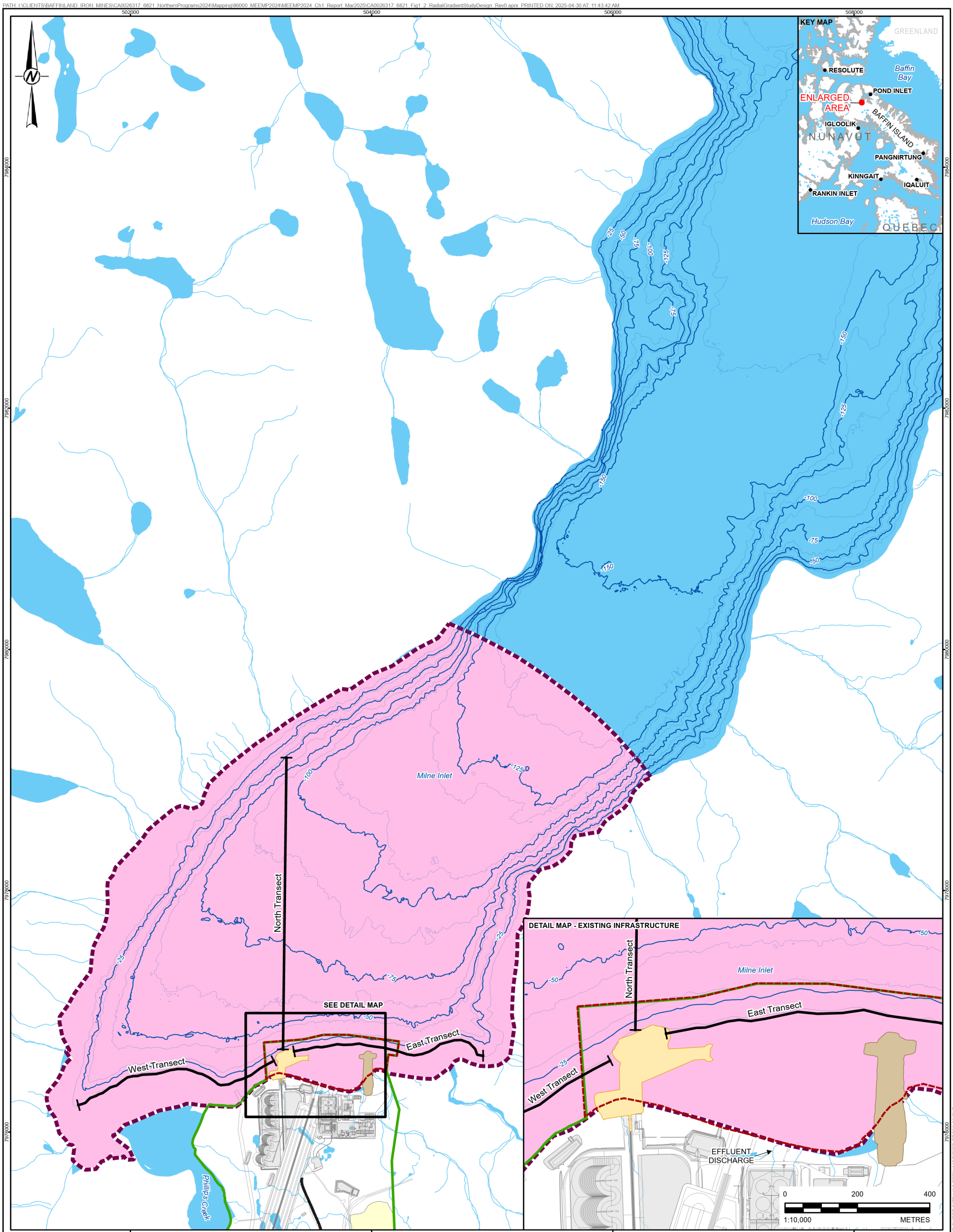
- Marine sediment quality
- Benthic epifauna and macroflora dive surveys
- Fish

While the radial gradient design has remained since its original design, the program has been updated to include more components and changes have been made to sampling methodologies and frequencies. Modifications to the MEEMP are summarized below in Section 1.5.3.1. Sampling efforts for the MEEMP in 2024 are summarized in Table 1-5.

Table 1-5: Summary of Sampling Efforts Performed in Milne Port for MEEMP Surveys, 2024

MEEMP Component	Relevant PC Conditions	Collection Methods	Sampling Effort	Sampling Frequency	Years of Data
Marine Water Quality	76, 83 (a), 87, 89 and 99 (a)	Vessel-based using 2.0 L Kemmerer sampling bottles	8 stations	Annually; five sampling events/year	9
Marine Sediment Quality	76, 83(a), 84, 85, 87 and 99(a)	Vessel-based using a Van Veen grab sampler	8 stations	Targeted sampling for Capesize monitoring, full sediment program every three years	10
Benthic Infauna	76, 87, 99(a), 99(c) and 126	Vessel-based using a Van Veen grab sampler	8 stations	Targeted sampling for Capesize monitoring, full benthic infauna program every three years	5
Substrate, Macroflora, & Epifauna	76, 83a, 84, 87, 99 (a) and (c)	Quadrat surveys by SCUBA divers	24 quadrats	Annually	4

MEEMP Component	Relevant PC Conditions	Collection Methods	Sampling Effort	Sampling Frequency	Years of Data
Marine Fish Community	99(b)(ii), (c), 113, and 114	Angling	12.9 hours	21 stations	8
		Gill net	54.7 hours	20 stations	13
		Hoop net	1,069.1 hours	18 stations	6
		Trawling	2.8 hours	7 stations	5
Fish Health & Tissue Chemistry	76, 83 (a), 87, 99 (a), 99 (b) (ii), 99 (c), 113, and 114.	See above for collection methods. Chemistry analyses completed by specialized laboratories.	13 Arctic Char (Incidental catch)	Annually	14
			79 Fourhorn Sculpin		6
			63 *Hiatella arctica*		7



LEGEND

- BATHYMETRIC CONTOUR (15 m INTERVAL)
- BATHYMETRIC CONTOUR (25 m INTERVAL)
- TOTE ROAD
- TRANSECT
- WATERCOURSE
- AGGREGATE SOURCE (BORROW PIT OR QUARRY)
- INFRASTRUCTURE
- ORE DOCK
- FREIGHT DOCK AND CAUSEWAY
- LOCAL STUDY AREA
- PDA / QIA COMMERCIAL LEASE
- WATERBODY

0 500 1,000
1:30,000 METRES

REFERENCE(S)

LOCAL STUDY AREA BOUNDARY DIGITIZED FROM THE MARY RIVER PROJECT FINAL ENVIRONMENTAL IMPACT STATEMENT (FEBRUARY 2012). FREIGHT DOCK DATA PROVIDED BY CLIENT, MAY 21, 2020. ADDITIONAL MILNE PORT INFRASTRUCTURE PROVIDED BY CLIENT, MAY 28, 2018 AND PROVIDED BY HATCH, JANUARY 25, 2017, RETRIEVED FROM KNIGHT PIESOLD LTD. FULCRUM DATA MANAGEMENT SITE MAY 19, 2017. HYDROGRAPHY AND TOPOGRAPHY DATA BY EAGLE MAPPING (2005), RETRIEVED FROM KNIGHT PIESOLD LTD. FULCRUM DATA MANAGEMENT SITE, MAY 2017. HYDROGRAPHY, POPULATED PLACE, AND PROVINCIAL BOUNDARY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

TITLE
STUDY AREA FOR THE MARINE ENVIRONMENTAL EFFECTS MONITORING PROGRAM (MEEMP), 2024

CONSULTANT
wsp

YYYY-MM-DD	2025-04-30
DESIGNED	CB
PREPARED	AA
REVIEWED	CB
APPROVED	AL

PROJECT NO.	CONTROL	REV.	FIGURE
CA0026317.6821	86200.04	0	1-2

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25mm
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1.5.3.1 Modifications to the Program

Since program inception, survey design has continually evolved based on refinements identified through consultation with regulatory agencies and Inuit stakeholders, and recommendations made in previous survey years. Table 1-6 summarizes key changes to the program since its inception in 2015.

Table 1-6: Summary of Modifications to the MEEMP Study Design from 2014 to 2024

Year	Component	Description of Modifications
2015	Marine Water Quality	Addition of water quality component to monitor for potential changes associated with site drainage and treated effluent discharges to the marine environment (including iron ore stockpile run-off). Four water quality stations were established near the site discharge point for compliance monitoring; one station next to the site discharge point, and three stations located slightly offshore to the northeast, north and northwest of the source.
2017	Physical Oceanography	Addition of sea level monitoring (using a tidal gauge) and vertical physical profiles of physical oceanographic parameters at Milne Port.
2017/18	Marine Fish Community	In 2017, fish sampling was limited to a two-week period in August, which was not necessarily representative of the entire open-water shipping season (late July to mid-October). In 2018, fish sampling was conducted throughout the duration of the MEEMP program (over four weeks, from the end of July to the end of August) for better representation of the shipping season. Fishing methods included gill netting and Fukui traps, with angling added in 2017, and beach seines added in 2018.
2018	Physical Oceanography	Sea level monitoring was expanded to include physical oceanographic monitoring throughout Milne Inlet including two sites at Milne Port and one at Bruce Head, and additional vertical physical profiles at select times and locations throughout Milne Inlet.
2018	Marine Sediment Quality	The number of sediment samples analyzed for hydrocarbon concentrations was reduced from three samples to one sample at each station, as hydrocarbon concentrations had been below detection limits (DL) in all samples to date. Additionally, two new sediment sampling stations were included along the East Transect to account for anticipated construction associated with the proposed Phase 2 ore dock and freight dock. (The freight dock was subsequently constructed but Phase 2 ore dock is no longer relevant.)
2018	Benthic Infauna	Addition of benthic infaunal sampling program, with input from MEWG. Previous years did not include infaunal sampling but, rather, evaluated changes to the benthic community using epifauna[15] and epiflora[16] as indicators using towed underwater video transect surveys – an approach that did not yield consistent nor reliable data primarily due to issues associated with video resolution.
2018	Epifauna and Epiflora	Study design was changed from one long video transect to a Before - After - Control - Impact (BACI) approach with five belt transects (1 m x 5 m plots) permanently installed on the seabed in each of the exposure and reference areas; monitoring was conducted using a remotely operated vehicle (ROV) underwater video system.

[15] benthic invertebrates living on the substrate

[16] marine vegetation attached to the substrate (e.g., kelp)

Year	Component	Description of Modifications
2018	Fish Health & Tissue Chemistry	Addition of local shellfish species, wrinkled rock-borer (*Hiatella arctica)*, as an additional effects indicator in the event finfish species (Arctic Char or sculpins) were sampled in insufficient numbers to adequately support statistical analyses. Measurement endpoints included body weight to length ratio and tissue (body burden) analysis. Prior to 2018, fish tissue sampling was limited to incidental Arctic Char mortalities, which fluctuated from year to year and did not always yield enough samples for a meaningful statistical analysis.
2019	Physical Oceanography	Vertical physical profiles of water quality parameters including temperature, salinity, conductivity, turbidity, pH, chlorophyll-a, and dissolved oxygen were taken north of Ragged Island in Eclipse Sound in August and September 2019.
2019	Benthic Infauna/ Marine Sediment Quality	Following the results of a power analysis, sampling intensity for benthic infauna and marine sediment was increased from four transects with five stations, to five transects with 15 stations each to improve statistical power and the ability to detect Project-related effects. Unlike in previous years, separate NIS/AIS stations were not sampled due to the expansion of the benthic sampling program.
2019	Benthic Infauna	In previous years, three replicate grab samples were taken at each benthic infauna sampling station. In 2019, the three grab samples were composited into a single sample for each station.
2019	Fish Health & Tissue Chemistry	Inclusion of sculpin (*Myoxocephalus* sp.) as a sentinel species and effects indicator due to the number of incidental mortalities being sufficient to support analyses.
2019	Fish Health & Tissue Chemistry	Instead of collecting length and weight measurements of *Hiatella arctica* samples in the field, *Hiatella arctica* specimens were submitted for age analysis in addition to the tissue (body burden) analysis.
2019	Marine Fish Community	Hoop nets were introduced to the fish sampling program to determine the capture efficiency of the method in Milne Port and to assess its potential as a replacement for Fukui trapping. Fukui traps will continue to be used in addition to hoop nets to meet commitments of continuing to sample at old locations for a minimum of three years (2022 was year 3) to facilitate comparison of old and new methods/results.
2020	Marine Water Quality	Addition of a second water quality monitoring station at the discharge location of MP-06, consistent with the study design for the existing water quality monitoring station at the discharge location for MP-05.
2020	Marine Water Quality	The collection of water samples was scheduled to coincide with at least one active discharge event at each discharge. One collection event also coincided with a de-ballasting event along the Ore Dock.
2020	Marine Sediment Quality/Benthic Infauna	Following time constraints in 2019, the sampling effort was increased from eight to ten sampling stations per transect to 15 sampling stations per transect.
2020	Marine Sediment Quality/Benthic Infauna	Benthic infauna and sediment sampling methodology and equipment was standardized across all stations to ensure consistency and comparability of results.
2020	Marine Sediment Quality/Benthic Infauna	The Coastal Transect was removed from the sampling plan after being determined as not contributing to the radial gradient design of the sediment and benthic sampling components.

Year	Component	Description of Modifications
2020	Substrate, Macroflora, and Benthic Epifauna	Due to the previously deployed belt transects being moved, twisted, and obscured following a short deployment period, the belt transects were replaced with ten steel quadrats that should be more robust under the local conditions.
2020	Substrate, Macroflora, and Benthic Epifauna	Following limitations in species identification in Remotely Operated Vehicle (ROV) footage on the belt transects, a dive team trained in the identification of marine biota were used in addition to ROV for survey of the quadrats.
2020	Marine Fish Community	Based on input and recommendations by Inuit field personnel, fishing locations were selected, and modifications were made to the methodologies for Fukui traps and hoop nets. Modifications included setting the traps in deeper locations to target demersal species and improve capture efficiency.
2020	Fish Health and Tissue Chemistry	Fourhorn Sculpin (*Myoxocephalus quadricornis*) were added as a targeted species for fish health and tissue chemistry/body burden analysis to monitor for impacts to resident fish species in Milne Port.
2020	Fish Health and Tissue Chemistry	Additional indicators were added to the fish health program to align with a Metal and Diamond Mining Effluent Regulations (MDMER) Environmental Effects Monitoring (EEM) program design. This included the addition of targeted lethal fish sampling to meet a minimum sample size.
2021/22	Marine Sediment Quality/Benthic Infauna	Monitoring frequency for the joint radial sediment and benthic sampling program has been adjusted to every three years, consistent with routine biological sampling for other mining effects monitoring programs and reflective of federal guidance (e.g., the federal Environmental Effects Monitoring Program [EEM]). Targeted sampling at SW-2 and in 2022, additional sampling at adjacent stations SW-1, SW-3 and SW-4.
2021	Substrate, Macroflora, and Benthic Epifauna	Ten additional quadrats were fabricated and deployed: five in each of the reference and impact areas. ROV methods were replaced by exclusive use of divers to improve taxonomic resolution of the data. 2021 was the first year that opportunistic samples of macroflora and epifauna were collected for taxonomic/genetic identification.
2021	Marine Fish Community	Longlines were trialed as a fishing method to the 2021 program. In addition, two Fishing Areas were delineated based on habitat features and their location relative to Milne Port to help standardize sampling efforts and address variability in the catch data across Milne Port.
2022	Marine Water Quality	The outfall location of MP-05 was moved to a more westward position along the beach between the Ore Dock and the Freight Dock. The coordinates for Source-1 sample location were adjusted to reflect the new position.
2022	Substrate, Macroflora, and Benthic Epifauna	Six additional quadrats were fabricated and deployed: three in each of the reference and impact areas.
2022	Marine Fish Community	Following an unsuccessful trial of longlines in 2021, the method was discontinued.
2022	Marine Fish Community	Catch per unit effort (CPUE) calculations were revised for two fishing methods (hoop nets and Fukui traps) to better account for field variability. Data from 2020 and 2021 were re-calculated with the modified CPUE calculations and compared against 2022 results.
2022	Marine Fish Community	A reconnaissance for a potential reference area was performed in two locations north of Milne Port. Water quality, sediment quality and fish community sampling were completed as part of the reconnaissance survey.
2023	Marine Sediment Quality	Addition of two stations (SCV-1, SCV-2) for monitoring impacts of Baby Cape and Capesize ore vessels.

Year	Component	Description of Modifications
2023	Benthic Infauna	Addition of three stations (SE18-1, SCV-1, SCV-2) for monitoring impacts of Baby Cape and Capesize ore vessels. SE18-1 was formerly sampled for sediment only.
2023	Physical Oceanography	Tidal gauge monitoring was not conducted, pending review of methodology.
2024	Marine Water Quality	Following repositioning of discharge points for MP-05 and MP-06, the coordinates of the sampling locations were adjusted to reflect the new position.
2024	Substrate, Macroflora, and Benthic Epifauna	Quadrat Q16 was replaced with Q27 in the approximate location of Q16's original position prior to it being dragged by an anchor in 2022.
2024	Marine Fish Community	Fishing methods were refined to focus on angling-jigging, gill nets, and hoop nets. Fukui traps and angling-trolling were discontinued due to being shown to be less effective. Trawling was retained as a method due to higher taxa richness and the potential for rarer species.
2024	Marine Fish Community	Following reconnaissance surveys in 2023, the Koluktoo Bay and Tugaat River Estuary sites were selected to serve as reference locations to support spatial comparisons for fish health and tissue chemistry endpoints.

1.5.4 NIS/AIS Monitoring

The NIS/AIS monitoring program was designed to detect for the potential introduction of non-native species from ballast water discharges and/or hull biofouling and is focused in areas with the highest likelihood of marine invasion. Due to ballast water releases occurring in Milne Port, NIS/AIS sampling largely focuses on southern Milne Inlet. The NIS/AIS Monitoring Program is conducted at a surveillance level, where detection of a single Project-related invasive species is the threshold for triggering of adaptive management measures (e.g., species rapid response plans) and/or potential corrective actions (e.g., measures to contain or eradicate the NIS/AIS), if deemed feasible. The NIS/AIS monitoring program consisted of data collected across multiple trophic levels (marine vegetation, benthic invertebrates, and fish) to establish a comprehensive inventory of existing marine biota in the Project area that is intended to serve as a point of reference for any new species identified over time, and to evaluate potential changes in community structure that may be linked to NIS/AIS introductions. Sampling efforts that contribute to the NIS/AIS monitoring program are summarized in Table 1-7. NIS/AIS monitoring is recommended to be conducted annually.

Table 1-7: Summary of Sampling Efforts Performed in Milne Port for NIS/AIS Monitoring Program Surveys, 2024

Relevant PC Conditions	Collection Methods	Sampling Effort in 2024	Sampling Frequency	Years of Data
76, 87, 89, 91, 99 (a), and 99 (c)	Permanent Quadrats	24 Quadrats	Annual	7[1]
	Active Fish Sampling[2]	90 Stations	Repetitive, Annually	13
	Fish Stomach Contents	60 Fish	Repetitive, Opportunistic, Annually	12
	Benthic Infauna	8 Stations	Annual	13
	Settlement Substrates	18 Plates 18 Baskets	Annual	6[3]
	Zooplankton	12 Stations	Repetitive, Annually	12[4]

Relevant PC Conditions	Collection Methods	Sampling Effort in 2024	Sampling Frequency	Years of Data
	Incidental Specimen Collection	N/A	Opportunistic, Annually	6
	Offset Habitat Monitoring	N/A	Opportunistic, Monitoring Years[5]	8

[1]Includes sampling of belt transects which were used from 2017-2018 exclusively for NIS/AIS surveys until they were replaced by permanent quadrats and added to MEEMP surveys.

[2]Active fish sampling includes fish captured in the reference area that were not included in marine fish community analysis described in Table 1-5.

[3]Settlement substrates were first deployed in 2014, however they were only successfully retrieved for analysis in 2018 and 2019. A new design was successfully implemented in 2020, with collections beginning in 2021.

[4]Zooplankton sampling did not occur in 2021.

[5]Offset habitat monitoring occurred in 2015 to 2020 at the Ore Dock offset habitat and 2020, 2021 and 2024 at the Freight Dock offset habitat.

1.5.4.1 Modifications to the Program

The initial NIS/AIS surveys were conducted in 2014 to enhance marine flora and fauna inventories collected during baseline sampling in 2008 and 2013. In subsequent years, NIS/AIS monitoring focused on identification of organisms not previously detected during the baseline program (as primary indicators of invasion). Equivalent NIS/AIS monitoring was continued in Milne Port area, although the program was expanded and modified based on refinements identified through consultation with regulatory agencies and Inuit stakeholders and recommendations made in previous survey years. Table 1-8 summarizes key changes to the program.

Table 1-8: Summary of Modifications to the NIS/AIS Monitoring Program Study Design from 2015 to 2024

Year	Program Component	Description of Modification
2015	Settlement Baskets	Baskets were redeployed instead of being collected for annual analysis due to insufficient colonization on the substrate.
2016	Settlement Baskets	New settlement baskets were deployed in Milne Port to replace sets previously lost.
2017	Benthic Infauna and Zooplankton	Four new sampling locations were added at Ragged Island to sample specifically for the NIS/AIS monitoring program in response to public concern over ships potentially discharging ballast water while occupying anchorage sites in this area.
2017	Zooplankton	Four new sampling locations were established in Milne Port for vertical zooplankton hauls, and two new locations for oblique zooplankton tows.
2017	Zooplankton	Modifications to the methodology for oblique zooplankton tows were made to target faster moving species and increase the total number of species identified.
2018	ROV Surveys	ROV-based surveys were made along the hulls of several ore carriers to assess for potential biofouling on vessels originating from outside of Canadian waters.
2019	Benthic Infauna	In 2019, no benthic infauna sampling occurred at the original NIS/AIS specific stations, due to the significant expansion of the benthic sampling program. A greater number of stations were sampled for identification of benthic infauna. NIS/AIS status was determined for all infauna identified in benthic sampling.
2019	Macroflora and Epifauna	A new NIS/AIS towed video survey transect was added east of the new Freight Dock at Milne Port to account for potential changes in shipping rates in Milne Port.
2019	Zooplankton	Two oblique zooplankton tow sampling locations were added to the Ragged Island component.

Year	Program Component	Description of Modification
2020	Overall Program	The program name was changed from AIS Monitoring to NIS/AIS monitoring to emphasize efforts to monitor for all potential species introductions to Milne Port, regardless of invasive status.
2020	ROV Surveys	Survey methodology was reviewed with the operator to ensure the methodology was aligned with the stratified survey design used in Sylvester and MacIsaac (2010).
2020	Ship Hull Monitoring	Performed ROV-based ship hull monitoring on two ships at anchorage to avoid limitations with hull visibility and accessibility when ships are moored at the Ore Dock, increasing the total area and survey time for each ship.
2020	Settlement Baskets	Deployment of nine new sets of settlement baskets and plates along the Freight Dock, as well as ten sets of settlement plates in other locations around Milne Port to increase monitoring of recruitment of encrusting biota.
2020	DNA Sampling	To improve taxonomic resolution, a DNA sampling component was added. Targeted sampling occurred at locations where potential NIS/AIS taxa had been observed previously, samples were preserved for DNA analysis at the Canadian Centre for DNA Barcoding at the University of Guelph. Incidentally-collected specimens were also selectively preserved for barcoding and taxonomic confirmation.
2021	Zooplankton	Zooplankton tows were removed from the sampling program due to the high variability in the data and limited sampling not capturing the seasonal presence of many taxa.
2021	Settlement Baskets	Deployment of new sets of settlement plates and baskets co-located with new quadrats around Milne Port to increase monitoring of recruitment of encrusting biota.
2021	Ship Hull Monitoring	Monitoring of ship hulls was not conducted in 2021 as Baffinland works with DFO to design a methodology that will improve the taxonomic resolution of the data collected to better inform assessment of NIS/AIS risk
2022	Benthic Infauna	Samples were collected at 12 additional benthic infauna stations (for a total of 16) to continue monitoring for NIS/AIS during reduced sampling years for MEEMP surveys.
2022	DNA Sampling	Following targeted sampling in 2020 and 2021 to obtain specimens for genetic analysis, no additional locations were identified for potential flagged taxa. As a result, no targeted sampling for genetic analysis occurred in 2022. Rather, the subfractions remaining following analysis of samples collected for genetic analysis in 2021 will be sorted for targeted organisms.
2022	Zooplankton	Zooplankton sampling at 12 stations was completed, following removal from the program in 2021.
2022	Reporting	Standardized distribution and uncertainty categories have been created and defined to better express confidence in range assessments for new taxa observations.
2022	Reporting	Reports will be submitted to NIRB in final form, with responses to MEWG comments addressed in subsequent annual report.
2023	Macroalgae	A new collaboration was started with the University of New Brunswick (UNB) to improve taxonomic resolution of macroalgae identification through DNA analysis.
2023	Zooplankton	Zooplankton sampling program was expanded for better seasonal coverage. Twelve stations were sampled on three dates. Compared to a single sample event in previous years.
2024	Offset Habitat Monitoring	Observations from the Freight Dock Habitat Offset Monitoring Program (including samples from the Freight Dock and from a reference area located 2.25 km north of the dock in Milne Inlet) were also screened for potential NIS/AIS.
2024	Settlement Substrates	Settlement substrates were collected to align all stations with the annual and multi-year collection rotations. All annual and a subset of multi-year substrates were archived as a potential source of DNA samples.
2024	Zooplankton	Zooplankton sampling program was amended to collection at twelve stations sampled on two dates.

Year	Program Component	Description of Modification
2024	DNA sampling	Additional benthic infauna samples were collected specifically collected for DNA and archived. Sample locations were selected based on previous observations of Watch List taxa.
2024	Macroalgae	Collaboration with UNB continued. Results of review of archived macroalgal material are presented in a technical memo in Appendix 8B-5. Macroalgae collected in 2024 were preserved for molecular and microscopic taxonomic analysis by UNB.
2024	Benthic Infauna	Benthic infauna sampling in 2024 focused on monitoring of eight “Capesize” stations adjacent to the Ore Dock
2024	Fish Community	Methods used for monitoring of the fish community were refined by focusing on angling (jigging), gill nets, hoop nets, and trawling, while the use of Fukui traps and angling (trolling) were discontinued.

1.6 Conclusions and Recommendations

The MEEMP-NIS/AIS program has been designed to meet the objectives of the various conditions associated with Project Certificate 005, as well as to evaluate whether Project activities have potentially impacted the marine environment over time. Predictions from the FEIS and subsequent addenda (Baffinland 2012; 2013) indicated the potential for low magnitude changes in some ecological parameters, such as water quality and Arctic Char tissue chemistry, but characterized these as “not significant”. Overall, monitoring data align with these predictions, as observed changes are typically minor and either within established guidelines or consistent with baseline levels. Thus, monitoring to date suggests that mitigation measures are functioning as intended and that Project activities are being managed in a way that has not adversely affected the marine ecosystem.

The main conclusions and recommendations based on the results of the 2024 MEEMP-NIS/AIS studies are as follows:

- **Marine Water Quality**
  - Relevant to PC No. 76, 83(a), 87, 89, 99(a).
  - Measured concentrations of metals were generally consistent with previous years and remained below CCME water quality guidelines for the protection of aquatic life while hydrocarbons and PAHs were below detection limits in most samples.
  - Laboratory analyses have not revealed a clear increase in the concentrations of iron in water samples collected between 2017 and 2024; iron in 2024 was within the 2015-2023 range of detected concentrations.
  - Monitoring results remained within original FEIS predictions, which forecasted no significant residual effects on water quality but indicated the potential for minor localized increases in TSS, nutrient, metal, and hydrocarbon concentrations.
  - The ‘Low Risk’ threshold for TARP was not triggered in 2024 because the 30-day mean for each water quality indicator was less the 75% of the applicable CCME water quality guideline for the protection of aquatic life, and iron did not show a spatial pattern or a temporal trend indicative of effects from the Port’s effluent discharge.

- **It is recommended that the water quality sampling program continue in 2025 to verify compliance with Project requirements and that parameters of potential concern remain well below thresholds of harm for marine biota.**

- **Marine Sediment Quality**
  - Relevant to PC No. 76, 83(a), 84, 85, 87, and 99(a).
  - Sediment quality at the Capesize sampling stations were below CCME guidelines for the protection of aquatic life for parameters analyzed and hydrocarbons were not detected in the sediment sampled.
  - Comparison of sediment quality in 2024 with existing conditions in 2023 (prior to use of larger vessels) and comparison to estimated scour predictions for the Capesize vessels, did not suggest a clear pattern indicative of Port-related effects beyond FEIS predictions and subsequent addenda.
  - Reduced fines were measured at two stations along the Western Transect. These stations are outside the zone of influence for potential scouring and are also predisposed to influence from natural factors (such as ice movement, coastal sediment processes, and potential influence from the entry of Phillips Creek to the inlet).
    - regardless of potential propeller wash influence, benthic infauna densities at these two stations were not significantly different in 2024 and 2023 and both stations continue to support diverse benthic invertebrate communities.
  - Monitoring results remained within original FEIS predictions, which forecasted the potential for minor and localized sediment disturbance associated with propeller wash, which is expected to stabilize over time, as well as the potential for minor localized increases in nutrients, metal, or hydrocarbon concentrations.
  - Sediment quality analysis for the 2024 MEEMP focussed on comparing the Year 1 Capesize Sampling Station results with the existing 2023 results for these stations. Given that sediment concentrations were below CCME guidelines for the protection of aquatic life and the 2024 results do not suggest a clear pattern indicative of Port-related effects beyond FEIS predictions and subsequent addenda, a ‘Low Risk’ threshold was not triggered in 2024 for the Capesize assessment.
  - **To gain a better understanding of potential scouring effects outside of the predicted zone of influence for the Capesize vessels versus influence from natural coastal processes, it is recommended to extend the 2025 Capesize Vessel sampling program along the West Transect to include SW-5 and SW-6, for a total of ten stations for sediment quality and benthic infauna sampling.**

- **Benthic Infauna**
  - Relevant to PC No. 76, 87, 99(a), 99(c), and 126.
  - Overall, the results indicated that benthic communities in Milne Port remained healthy and diverse.
  - Scouring effects were previously observed in 2020 at station SW-2 due to propeller wash from smaller ore carriers and tugs. Subsequent monitoring years indicated that the benthic infaunal community at that station later recovered, and that the effects were temporary and localized.

- The 2024 results remain within predictions of the FEIS and subsequent addenda, which forecasted the potential for localized sediment disturbance associated with propeller wash and temporary effects on benthic infaunal community indicators.
- In 2024 the eight Capesize stations continued to support diverse benthic invertebrate communities, with dominant polychaete taxa but also bivalves and crustaceans.
  - Overall density and richness were not significantly different between Year 1 (2024) and under existing conditions in 2023; however, the benthic infaunal community continued to show variability between stations in 2024 with observed decreases in density and richness from 2023 to 2024 at stations in close proximity to the Ore Dock. These observations are partly supported by changes in the proportion of fines content in the area over time as well as natural variability seen within benthic communities.
- Benthic performance indicators were not significantly different in Year 1 (2024) compared to existing conditions in 2023, and any visual decreases in benthic indicators appeared to be within Port-related effects predicted by FEIS and subsequent addenda, a 'Low Risk' threshold was not triggered in 2024 for the Capesize assessment.
- **It is recommended to continue sampling of these stations in 2025. Additionally, to gain a better understanding of potential scouring effects outside of the predicted zone of influence for the Capesize vessels versus influence from natural coastal processes, it is recommended to extend the 2025 Capesize Vessel sampling program along the West Transect to include SW-5 and SW-6, for a total of ten stations.**

- **Substrate, Macroflora, and Benthic Epifauna**
  - Relevant to PC No. 76, 83(a), 84, 87, 99(a), and 99(c).
  - Overall, macrofloral and benthic epifaunal community assemblages were comparable between exposure and reference areas but varied interannually for some assemblage indicators which were likely driven by environmental factors. Monitoring efforts to date revealed no evidence of overarching spatial or temporal trends that might be associated with Project-induced effects from construction or operation activities and Milne Port.
  - **It is recommended that monitoring of macrofloral and benthic epifaunal assemblages should continue using the same sampling and statistical design with a modification to include the tops of the metal crossbars and outer frame in analyses due to increased observations of habitat formation and colonization of these hard surfaces within many quadrats in 2024. Two quadrats closest to Phillips Creek were not located in 2024 and are presumed lost. It is recommended that these quadrats not be replaced due to dynamic nature of the bottom in that area. Further, it is recommended to increase collections of unknown taxa, where possible, for identification. Such taxa should be collected outside the permanent quadrats, where possible, to minimize impacts on community composition within the quadrats.**
- **Marine Fish Community**
  - Relevant to PC No. 99(b)(ii), (c), 113, and 114.

- Monitoring efforts to date revealed no evidence of overarching spatial or temporal trends that might be associated with adverse Project-induced effects from construction or operation of Milne Port.
- Monitoring results aligned with predictions of the FEIS and subsequent addenda, which forecasted that the Project would have no significant effects on marine fish habitat, nor would it significantly affect Arctic Char populations.
- The sampling methods utilized in 2024 (angling-jigging, gill nets, hoop nets, and trawl) provide comparable results for detection of fish diversity as observed in previous years (when additional fishing methods were included in the program) and are recommended for use going forward.
- As power analyses continued to indicate the statistical power of the performed analyses was relatively low, due to the high variability of fish catch, consideration may be given to assessing differences between FAs using effect sizes rather than a strict adherence to statistical significance.
- **Overall, fishing methods were deemed effective in characterizing the marine fish community in terms of species presence and relative abundance. The program continues to improve its methodology with regard to efficiencies of capture, representation of the fish community, and statistical power, and the delineation of FAs and standardization of measures of fishing effort time series that commenced in 2020 will continue to allow for ongoing assessments of interannual and interarea change in relative fish abundance and distribution at Milne Port.**

- **Fish Health and Tissue Chemistry**
  - Relevant to PC No. 76, 83 (a), 87, 99 (a), 113, and 114.
  - Monitoring results remained well within predictions of the FEIS and subsequent addenda (Baffinland 2012; 2013), which indicated the potential for non-significant, low magnitude effects on Arctic Char tissue chemistry, but characterised these changes as not ecologically significant. Monitoring data align with these predictions overall, as observed changes have been small and are consistent with baseline data or established guidelines.
  - Monitoring to date suggests that Project mitigation is functioning as intended and that Project activities are being managed in a way that has not adversely affected marine fish health beyond the scope of the FEIS predictions, including addenda.
  - **If monitoring of fish health and tissue chemistry in 2025 continues to demonstrate that the effects of Project activities are within those predicted by the FEIS and subsequent addenda, it may be recommended to consider periodic monitoring of these MEEMP components on a three-year cycle. Completion of the 2025 monitoring is recommended so that at least three years of data would be available from Koluktoo Bay which was the most-recently selected reference area and has been sampled since 2023.**

- **NIS/AIS Monitoring Program**
  - Relevant to PC No. 76, 87, 89, 91, 99 (a), and 99 (c).
  - To date, 1,204 taxa have been documented in Milne Inlet with 499 identified to species, the majority of which are not potential NIS/AIS.

- Taxa identified in 2024 surveys included 54 taxa not previously collected during Project monitoring in Milne Port. The majority of new taxa had records of occurrence in the Canadian Arctic or described ranges that were likely to include the Project area.
- NIS/AIS monitoring in 2024 collected one species that was placed on the Watch List in previous years due to uncertainties in its natural range and because it was listed in an existing AIS database (*Paramphitrite birulai*). As this species had been previously sent for independent verification with a specialist, the newly collected specimens were not submitted for additional taxonomic confirmation. No change in the status of this taxon on the Watch List was recommended.
- *Chaetozone anasima* was placed on the Watch List as Low Risk as a precautionary measure due to the lack of a range description that included the Eastern Canadian Arctic. The genus *Chaetozone* has regularly been detected in Milne Inlet since baseline studies but recent taxonomic publications have allowed further resolution of some species. The specimens collected in 2024 and identified as *Chaetozone anasima* may represent a refinement of the previous identification, rather than a new identification for Milne Port.
- The green filamentous algae *Chaetomorpha* sp. 3GWS is an undescribed taxon initially sequenced from samples collected in Maine. No further information is available for this taxon, and it was precautionarily placed on the Watch List as a Low Risk taxon.
- Molecular examination of Milne Port algae specimens indicated the presence of *Desmarestia ligulata* however, the identification was flagged as a potential laboratory contamination. No records of this species exist in the Canadian Arctic, and it is present on at least one AIS database, and therefore this species was placed on the Watch List as Low Risk as a precautionary measure.
- Sequences generated from scrapings of settlement substrates and rocks and were tentatively matched to *Antithamnion sparsum*, an Asian species that is considered alien to Nova Scotia and does not have an Arctic range on record. Due to the method of sample collection, morphological confirmation could not be made. The lab considered these results as a potential false positive, however, *Antithamnion* cf. *sparsum* was precautionarily flagged for further review and was placed on the Watch List as a Low Risk taxon.
- A scraping from a settlement plate was a genetic match to *Polysiphonia kapraunii*, which is a recently described species from North Carolina. Genetic work reveals some uncertainty in the taxonomic designation, indicating that it forms a clade with at least one closely related species with a broader range, and may not be its own species. While the identification in 2024 was not considered a false positive, the result was flagged as uncertain due to the method being limited in distinguishing between closely related species. Due to the lack of a range description that includes Arctic waters, *Polysiphonia kapraunii* was flagged for further review and was placed on the Watch List as a Low Risk taxon as a precaution.
- The Watch List now consists of thirteen taxa. There are no species on the Trigger List.
- No NIS/AIS endpoint exceeded TARP “Low Risk” thresholds in 2024.
- **It is recommended to continue the following:**
  - **sampling across multiple trophic levels continue in 2025 and continuing to expand the Milne Inlet Taxonomic Inventory.**

- **using external accredited laboratories and/or global specialists to confirm identifications of specimens requiring a more in-depth taxonomic analysis.**
- **collecting targeted samples for DNA analysis at locations where high-risk taxa have previously been observed.**

Further details on each component of the MEEMP-NIS/AIS program are provided in topic-specific chapters: Marine Water Quality (Chapter 2.0); Marine Sediment Quality (Chapter 3.0); Benthic Infauna (Chapter 4.0); Substrate, Macroflora, and Benthic Epifauna (Chapter 5.0); Marine Fish Community Program (Chapter 6.0); Fish Health and Tissue Chemistry (Chapter 7.0); and NIS/AIS Monitoring Program (Chapter 8.0).

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Chapter 2.0 Marine Water Quality

2024 Milne Port Marine Environmental Effects Monitoring Program (MEEMP) and Non-Indigenous Species/Aquatic Invasive Species (NIS/AIS) Monitoring Program

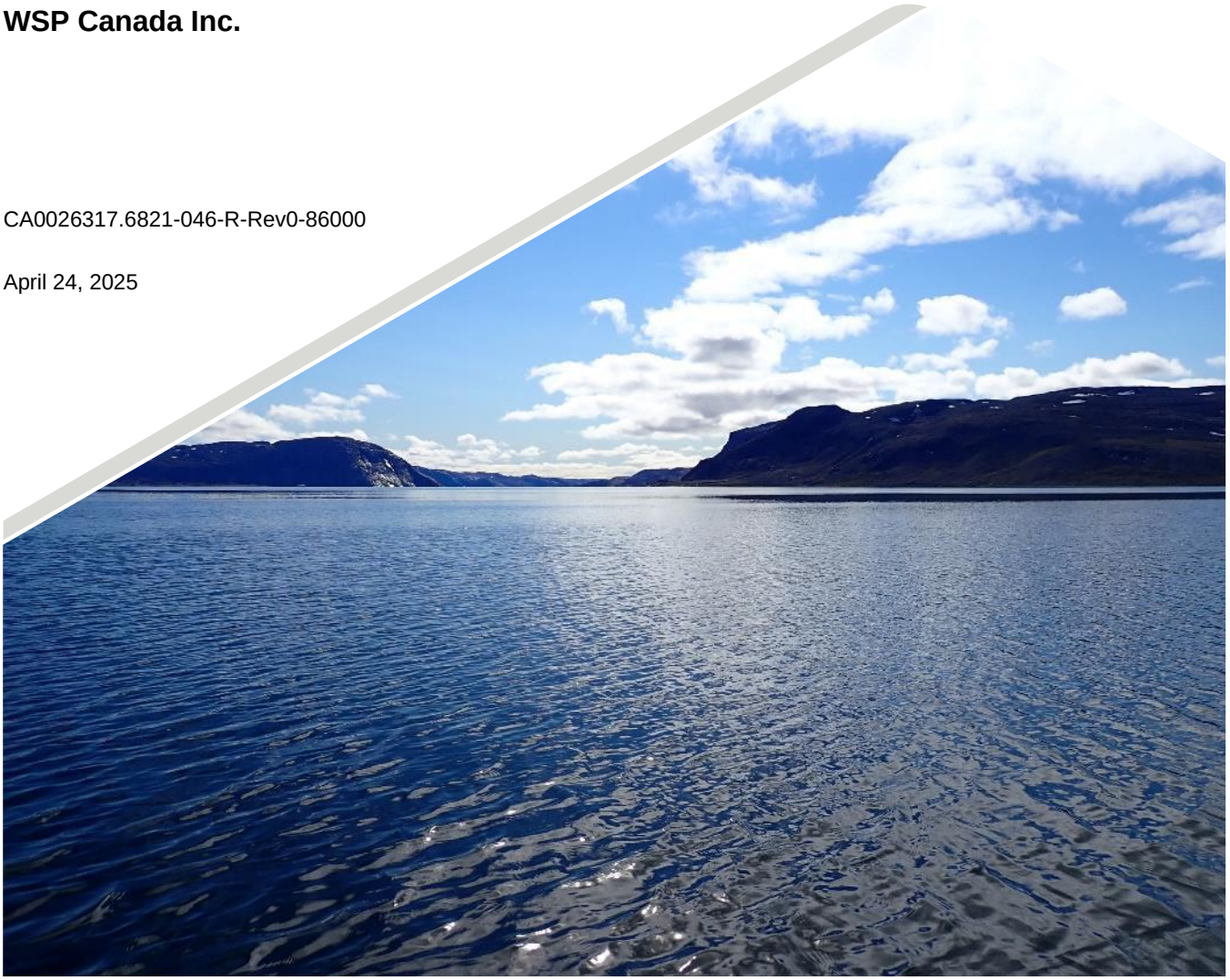
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CA0026317.6821-046-R-Rev0-86000

April 24, 2025

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ACRONYMS AND ABBREVIATIONS

Acronym or Abbreviation	Definitions
ALS	ALS Canada Ltd.
BC	British Columbia
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
CALA	Canadian Association for Laboratory Accreditation Inc.
CCME	Canadian Council of Ministers of the Environment
DL	Detection limit
DQOs	Data Quality Objectives
ERP	Early Revenue Phase
FEIS	Final Environmental Impact Statement
HEPH	Heavy Extractable Petroleum Hydrocarbons
LEPH	Light Extractable Petroleum Hydrocarbons
MEEMP	Marine Environmental Effects Monitoring Program
MDL	Method Detection Limit
NTU	Nephelometric Turbidity Unit
PAHs	Polycyclic aromatic hydrocarbons
PC	Project Certificate
PSU	Practical Salinity Unit
QA/QC	Quality Assurance / Quality Control
QC	Quality Control
RPD	Relative Percent Difference
TARP	Trigger Action Response Plan
TSS	Total Suspended Solids
UTM	Universal Transverse Mercator
WQGs	Water Quality Guidelines

2.0 WATER QUALITY

2.1 Introduction

This chapter presents the results of the marine water quality monitoring program, a component of the larger Marine Environmental Effects Monitoring Program (MEEMP) conducted at Milne Port and in Milne Inlet during the 2024 open-water season. The water quality component was developed in consideration of the potential Project-related impacts to the marine environment as predicted in the Final Environmental Impact Statement (FEIS) and FEIS addenda (Baffinland 2012, 2013), as well as monitoring requirements outlined in the Project Certificate (PC) Conditions described in Chapter 1.0, Table 1-2 (i.e., PC Conditions No. 76, 83(a), 87, 89 and 99(a)), and as required by the Type A Water License.

2.1.1 Objectives

The MEEMP objectives are outlined in Section 1.3 for the overall program. The objective specific to the marine water quality component is:

- Assess potential changes in marine water quality parameters in the receiving environment related to site drainage and effluent discharges at MP-05 and MP-06.

2.2 Study Design

2.2.1 Sampling Parameters

The marine water quality program is designed to monitor potential changes in receiving environment water quality associated with site drainage and effluent from two discharge points (MP-05 and MP-06), including run-off from the iron ore stockpiles. The MP-05 discharge is permitted from the Milne Port Ore Stockpile Sedimentation Pond (East) and the MP-06 discharge is permitted from the Milne Port Ore Stockpile Sedimentation Pond (West). The quality of both effluent discharges is monitored monthly during each intermittent discharge period by the Mine as per the requirements of the Type “A”, Water Licence No. 2AM-MRY1325, and reported elsewhere. The marine receiving environment for the MP-05 primary discharge has been monitored annually since 2015, with monitoring at a second discharge point (MP-06) added in 2020. This sampling program has been applied to identify and characterize adverse effects on marine water quality in Milne Port from the two site discharges, to evaluate the current effectiveness of existing mitigation measures, and to inform the need for further mitigation and/or alterations to Project activities, as necessary.

In 2024, water quality samples were collected at four sampling stations near the primary site discharge (MP-05) that have been monitored annually from 2015 to 2023[1]. One station is situated downstream from the marine discharge point for effluent and collected site drainage (i.e., Source-1), while the remaining three stations are located approximately 250 m offshore from the outfall location to the northwest (WNE-1), north (North-1), and northeast (ENE-1), respectively (Figure 2-1, Table 2-1). The same sampling plan was applied to MP-06 in 2020 and four water quality stations were monitored in 2024 downstream from the discharge (Source-2) and approximately 250 m offshore in different directions (WNE-2, North-2, ENE-2) (Figure 2-1, Table 2-1). As indicated in Table 2-1, due to the repositioning of the MP-05 and MP-06 discharge points, the 2024 sampling

[1] SEM 2016; SEM 2017; Golder 2018, Golder 2019, Golder 2020, Golder 2021, Golder 2022; WSP 2023; WSP 2024

points were adjusted to be approximately 250 m from the discharge points. The coordinates for the sampling locations are provided in Table 2-1) and the locations are mapped in Figure 2-1. These modifications did not affect the relevance of the data to address study objectives, or the reliability of the water quality data collected. Similar to previous years, efforts were made to collect water quality samples during active effluent discharge periods, given that site effluent discharges were intermittent during the 2024 open-water season. The primary MP-05 discharge point was not actively discharging during the sampling period, however MP-06 had an active discharge prior to sampling (8 July 2024) as well as during the sampling period (15 August 2024).



LEGEND

DISCRETE WATER QUALITY SAMPLES

- MP-05 (MILNE PORT ORE STOCKPILE SEDIMENTATION POND [EAST])
- MP-06 (MILNE PORT ORE STOCKPILE SEDIMENTATION POND [WEST])

0 125 250

1:7,500 METRES

REFERENCE(S)

HYDROGRAPHY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. MILNE PORT IMAGERY CAPTURED AUGUST 2020 © 2020 DIGITAL GLOBE, INC. ADDITIONAL IMAGERY COPYRIGHT © 20190802 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTION: UTM ZONE 17 DATUM: NAD 83

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

TITLE
WATER QUALITY SAMPLING STATIONS FOR THE MP-05 AND MP-06 MILNE PORT SITE DISCHARGES, MEEMP 2024

CONSULTANT
wsp

YYYY-MM-DD	2025-04-23
DESIGNED	PT
PREPARED	AA/MH
REVIEWED	AL
APPROVED	EI

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Table 2-1: 2024 Marine Water Quality Sampling Locations at MP-05 and MP-06

Site Discharge Location	Station Name	UTM Coordinates (17W)	
		Easting (m)	Northing (m)
MP-05 (Milne Port Ore Stockpile Sedimentation Pond [East])	Source-1	503484	7976487
	West Northwest (WNW) - 1	503516	7976625
	North (N) – 1	503593	7976600
	East Northeast (ENE) – 1	503692	7976495
MP-06 (Milne Port Ore Stockpile Sedimentation Pond [West])	Source-2[1]	503117	7976499
	WNW-2	502969	7976630
	N-2	503166	7976703
	ENE-2	503379	7976668

Notes: UTM = Universal Transverse Mercator; m = meter.

[1] On 6 August 2024, the MP-06 Source-2 location was too shallow to sample, and was instead sampled at 17W 503126 E, 7976471 N, approximately 30m south of the original location.

2.2.2 Indicators and Thresholds

Indicators and thresholds selected for the MEEMP program are described in Section 1.4.2. For marine water quality, a number of parameters are measured, including physical parameters, nutrients, metals, and hydrocarbons. A subset of these parameters (i.e., metals, total suspended solids [TSS], nutrients, and hydrocarbons) are identified as performance indicators to assess potential effects of effluent discharge on the receiving environment. To provide early warning of environmental effects from the Project, applicable water quality guidelines (WQGs) are used as a threshold where these exist (i.e., Canadian Council of Ministers of the Environment [CCME] WQGs for the protection of aquatic life in marine environments [CCME 2023]). For indicators with no associated WQG, such as iron, concentrations were compared to the data range from previous years (2015-2023). If a guideline exceedance was seen, or where no guideline exists, there was an increasing trend over time, then the effluent data from the discharge were reviewed to determine if the observed increase in these parameters was related to effluent discharges from MP-05 and MP-06.

Along with several other components of the MEEMP, the marine water quality monitoring program has indicators, thresholds and risk categories that are part of Baffinland's Trigger Action Response Plan (TARP), an adaptive management process. The TARP uses effect indicators that are measured against a series of tiered thresholds (i.e., low, moderate and high-risk thresholds) that are designed to guide short-term and long-term adaptive management strategies as outlined in Baffinland (2024). Baffinland has updated the TARP as part of the revised draft Marine Monitoring Plan (Baffinland 2023). The pre-defined actions identified in the TARP describe the responses that Baffinland would implement should the corresponding threshold levels be exceeded and assuming there is some degree of certainty that the measured change is Project-related. As adaptive management is beyond the scope of the present report, only the indicators, risk categories and thresholds are presented here (Section 2.3.4).

2.3 Materials and Methods

2.3.1 Field Methodology

Water quality samples were collected during five sampling events scheduled between 30 July and 18 August 2024 to monitor for potential changes in water quality associated with site drainage and effluent discharges to the marine environment (including iron ore stockpile run-off). Samples were typically collected every few days over this period; however, some flexibility was built into the sampling program to facilitate the collection of effluent and receiving water quality samples from the same discharge period to allow for direct comparisons.

Water samples were collected from just below the surface (1 to 2 m) or mid-water column depth from the deeper MP-06 sample locations (MP-06-WNW, MP-06-North, and MP-06-ENE) from a zodiac vessel using a 2.0 L vertically oriented Kemmerer bottle sampler. The sampler was washed with laboratory-grade detergent and then rinsed with site water prior to sample collection at each station. Samples were preserved in the field according to laboratory instructions and kept refrigerated until they were shipped (within 48 h of sample collection) on ice in coolers to ALS Canada Ltd. (ALS), a Canadian Association for Laboratory Accreditation Inc. (CALA) accredited analytical laboratory. To further limit the time between sample collection and preservation, dissolved metals and mercury samples were field-filtered and preserved, rather than being filtered by the analytical laboratory upon sample receipt. Samples were analyzed for routine parameters, TSS, nutrients, major ions, total and dissolved metals (including mercury), benzene, toluene, ethylbenzene, xylenes, hydrocarbons, and PAHs. At each sampling station, in situ water quality measurements were conducted using a YSI multiparameter meter. Instrumentation was deployed once per station at the same depth as the discrete water quality sample to collect measurements of conductivity, temperature, depth, dissolved oxygen, turbidity, and pH. A full list of field water quality parameters is provided in Appendix 2A in the field data sheets, while a full chemistry parameter list is provided in the analytical reports in Appendix 2B. A total of five field duplicates and three field blank quality control (QC) samples were collected during the field program for Quality Assurance / Quality Control (QA/QC) purposes as discussed in Section 2.3.3.

The frequency of sampling for hydrocarbons (Petroleum hydrocarbons [BTEX/F1]; Hydrocarbons [LEPH/HEPH], F2-F4, Polycyclic Aromatic Hydrocarbons [PAHs]) in 2024 was consistent with the 2021, 2022, and 2023 sampling programs. Organic constituents have not been detected in water samples collected since 2015. As such, for each of the five sampling events, hydrocarbons were sampled at two of the four receiving environment stations established for each of the two discharges, for a total of twenty samples.

2.3.2 Data Analysis

Descriptive summary statistics (i.e., mean, minimum, maximum) were calculated for each sampling station over the five sampling events. For these calculations, the value of the reported detection limit (DL) was conservatively used for measurements reported to be below the DL. The 2024 summary statistics were screened against the CCME WQGs for the protection of aquatic life in marine environments (CCME 2021). For parameters of interest without an applicable CCME WQG (e.g., iron), concentrations were qualitatively compared to the range of water concentrations reported in previous years (i.e., annually from 2015 to 2023). A point to note, analytical improvements in the ability to detect iron were made in 2017, which reduced the detection limit to <10 µg/L from the previous DL of 500 µg/L reported in the 2015 and 2016 MEEMP programs. Differences in the sensitivity of DL precludes comparison of the 2024 iron data to pre-2017 iron data.

The application of CCME WQGs to total concentrations measured in the environment can be conservative, especially when those metals are part of the mineral matrix that makes up the particle. This is because total metal concentrations reflect both the proportion of metals associated with particles as well as dissolved in the water column. Dissolved concentrations[2] tend to provide a more realistic indication of the bioavailable concentration for direct uptake from the water, particularly in turbid receiving environments (Chapman and Wang 2000); however, water quality guidelines for the protection of aquatic life are generally based on total (not dissolved) concentrations. WQGs are derived from laboratory-based toxicity tests where exposure concentrations are based on metals in solution from metal salts and the laboratory test water has a low level of suspended matter (i.e., clear water). Typically, these toxicity tests involve exposure of test fish, invertebrate, or plant species to more bioavailable dissolved metal concentrations, whereas the exposure guideline is based on total concentrations, thus contributing to conservatism in the derivation of water quality guidelines.

Baffinland was responsible for summarizing the 2024 effluent data from MP-05 and MP-06 as per the Type A Water Licence requirements and results are reported by Baffinland separately.

2.3.2.1 Analysis of Temporal Trends of Iron Concentrations

The analysis of iron concentrations was performed separately for MP-05 and MP-06 data. For MP-05, where eight years of data were available, the temporal trend was analyzed using year as a continuous variable. The variable was modeled as a natural cubic spline with three degrees of freedom, to account for the non-linearity in temporal trends in fines. For MP-06, where only five years of data were available, the temporal trend was analyzed using year as a categorical variable.

Prior to analysis, the non-detect values were replaced using the approach described in USEPA (2006). A robust substitution approach, using the statistical package “NADA” in R v.4.3.2 was used to replace non-detects with values based on sample size, frequency of non-detects, and distribution of data above the detection limit. Following the substitution, the response variable (iron concentration) was $\log_{10}$-transformed prior to analysis.

For both analyses, the models included three fixed effects – the main effects of year and station, and the interaction between year and station. In addition, a random effect of date (as a categorical variable) was used to account for variability between sampling days. Both analyses were conducted using the package glmmTMB (Brooks et al. 2017) in the statistical package R v. 4.3.2 (R 2023). Following both regressions, if the interaction between year and station, or the main effect of station were significant, multiple comparisons between years within each station were performed using the package emmeans (Lenth 2020).

2.3.3 Quality Management

Consistent application of QA/QC measures facilitates the collection of high-quality data which, in turn, increases confidence in the robustness of results. Quality management procedures were applied to the field collection, data analysis, and reporting tasks for the water quality program to verify that the data presented are valid and of acceptable quality to address MEEMP objectives.

[2] The measure of “dissolved” metals is an operational definition based on whether the metal passes through a small (0.45 micrometre [µm]) filter (BC MWLAP 2013)

2.3.3.1 Field QA/QC

Field staff were trained to be proficient in standardized sampling procedures, data recording using standard forms, and equipment operations applicable to the monitoring program. Field work was conducted according to specified instructions and established technical procedures for standard sample collection, preservation, handling, storage, and shipping procedures.

General QA/QC tasks applicable to the water quality program included, but were not limited to, the following:

- Preparing geo-referenced field maps for use during the program to accurately document sampling locations and project-specific data collection forms to standardize the field data collection process.
- Regular communications between the Project Manager and field staff.
- Collection of Quality Control (QC) samples in the field (field duplicates and blanks).
- Accredited laboratories were selected for sample analysis and the performance quality of these laboratories was verified through WSP's internal vendor approval and assessment procedures.
- Field data sheets were reviewed by the field supervisor at the end of each day for completeness and accuracy.
- Chain-of-custody documentation was used to track sample shipments to the individual subcontractor laboratories.
- Samples were packaged and shipped to the laboratory in accordance with required holding times and storage conditions.

Field blanks were collected to identify potential sources of contamination during field sampling. Field blank sample containers were filled with de-ionized water in the laboratory and then processed in the field in the same manner as water samples from each station (i.e., uncapped, treated with preservative, re-capped). Five field duplicates and three field blanks were collected over the five sampling events.

2.3.3.2 Laboratory and Data Analysis QA/QC

Laboratory QA/QC reports were reviewed upon receipt to confirm adherence to sample hold times and laboratory data quality objectives (DQOs), and that the appropriate QA/QC information had been reported. Laboratory QA/QC included verification of recommended sample holding times and the analysis of laboratory control samples, laboratory duplicates, and spiked samples to assess the reliability and reproducibility of the data.

The analysis of field QC samples involved a review of field blank results. Notable results were those detected in the field blanks that were greater than five times the respective DL, in accordance with the BC Field Sampling Manual (BC MWLAP 2013). To assess variability between field duplicates, the Relative Percent Difference (RPD) was calculated as follows:

$$RPD = \left(\frac{sample - duplicate}{(sample + duplicate)/2}\right) \times 100$$

In accordance with the BC Field Sampling Manual (BC MWLAP 2013), an RPD value of >20% was used to identify differences between original and duplicate samples. Values less than five times the Method Detection Limit (MDL) were not included in the RPD calculations because analytical variability near the MDL is higher and does not provide a good measure of variability associated with the collection of field samples.

2.3.4 TARP Assessment

As part of applying the Trigger Action Response Plan (TARP), water quality performance indicators were screened against condition status/thresholds in 2024, in order to assess risk levels for each performance indicator (Table 2-2).

Table 2-2: Marine Environment TARP Framework for Water Quality (Baffinland 2024)

Component	Performance Indicators	Condition Status/Threshold		
		Low Risk	Moderate Risk	High Risk
Water Quality	• Metals • TSS • Hydrocarbons • Nutrients	30-day mean concentration of a parameter is greater than 75% of an applicable CCME long-term guideline[1]. AND Effluent monitoring and spatial and temporal water quality data suggest a pattern indicative of effects from the Port's effluent discharge	Confirmed[2] exceedance of an effects benchmark or an applicable CCME long-term guideline[2] by a mean concentration. AND Effluent monitoring and spatial and temporal water quality data suggest that the confirmed increase in this parameter is related to the Port's effluent discharge.	To be determined based on outcome of moderate response investigations.

[1] Canadian Council of Ministers of the Environment (CCME) water quality guidelines for the protection of marine aquatic life. With the exception of silver, total suspended solids (TSS), and turbidity, these are long-term water quality guidelines intended to be applied to the average concentration at a receiving environment station collected over a 5-in-30 sampling program (i.e., average of 5 discrete samples collected over a 30-day period). In lieu of a long-term guideline for silver, the short-term guideline will be applied to discrete measured concentrations. The long-term guidelines for TSS and turbidity will be used.

[2] Confirmed indicates that the Risk Status/ Threshold trigger has been observed in at least two consecutive monitoring programs, whether during the regular monitoring schedule or confirmed through a special study.

2.4 Results

2.4.1 QA/QC Results

The 2024 marine water quality data were considered valid based on the results of the QA/QC assessment provided in Appendix 2D for the following reasons:

- Most chemical analyses on surface water samples were completed within the sample hold time requirements, with the exception of some hold time exceedances for parameters such as pH, turbidity, dissolved organic carbon, nitrite, nitrate, total dissolved phosphorus, and TSS/TDS (Appendix 2D). Although exceedances of sample hold time requirements have been documented, the hold times for the parameters in question are relatively short and are outlined in Appendix 2D. Given the remote location of the site, such exceedances were unavoidable, and so efforts were taken to minimize the extent of any hold time exceedances. The hold time exceedances did not affect interpretation of the 2024 water quality data. Baffinland continues to minimize hold time exceedances where feasible given the northern location of the sampling program.
- Water sample temperature was slightly above the laboratory recommended thresholds for receipt of samples (< 10ºC) in two of the five sampling events (VA24B9271 and YL2401213), with measured sample temperatures between 10.9 and 14ºC. These water temperatures did not affect interpretation of the data.
- Data reported by the laboratory were considered reliable according to the accredited laboratory QA/QC assessment because there was a low frequency and magnitude of notable detected concentrations in blank QC samples and low variability between duplicates QC samples (Appendix 2D).

To demonstrate that the samples and analytical results can be considered valid, representative, and reproducible, five field duplicate samples were collected. To assess variability between field duplicates, the Relative Percent Difference (RPD) was calculated (Appendix 2D). All samples met RPD data quality objectives with the exception of:

- Duplicate B and its parent sample MP-05 North (sampled 6 August 2024) had a RPD percentage of 23% for conductivity, 24% for total dissolved solids (TDS), 24% for salinity, 27% for chloride, and 24% for sulphate.
- Duplicate C and its parent sample MP-05 ENE (sampled 12 August 2024) had a RPD percentage of 71% for total copper. The noted variability in total copper concentrations could be attributed to laboratory interference or variability in the particulate form as suspended solids. Of note, all other parameters within this duplicate pair had RPD percentages ≤16%.

As these exceptions were infrequent and minor, the QA/QC results indicate that the water chemistry data collected during the 2024 MEEMP are of acceptable quality to address the objectives stated in Section 2.1.1.

2.4.2 Marine Water Quality Results

Field water quality measurements are documented in Appendix 2A, and laboratory reports are provided in Appendix 2B. The field measurements and laboratory raw data for each station sampled in 2024 are summarized in Appendix 2C. Summary statistics (mean, maximum, and minimum) for the 2024 water quality program calculated from these data and screened against the CCME WQGs for the protection of aquatic life in marine environments (CCME 2021) are presented in Table 2-3. Summary statistics for parameters of interest for the ten monitoring years between 2015 and 2024 are provided in Appendix 2E – Table 1.

Table 2-3: Marine Water Quality – Receiving Environment Summary Statistics for the MP-05 and MP-06 Milne Port Site Discharges over the Five Sampling Events in 2024

Parameter	CCME Marine WQG for Protection of Aquatic Life[a]		MP-05 ENE 1 (n=5)			MP-05 North 1 (n=5)			MP-05 Source 1 (n=5)			MP-05 WNW 1 (n=5)			MP-06 ENE 1 (n=5)			MP-06 North 1 (n=5)			MP-06 Source 1 (n=5)			MP-06 WNW 1 (n=5)		
	Short Term	Long Term	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Physical																										
pH	—	7.0-8.7	8.03	7.97	8.10	8.03	7.97	8.08	8.02	7.96	8.07	8.03	7.95	8.10	8.03	7.98	8.05	8.02	7.98	8.05	8.05	7.97	8.14	8.03	7.98	8.05
Salinity (PSU)[b]	—	—	21.3	7.1	29.2	21.3	7.9	29.3	21.6	7.0	29.2	21.0	2.9	29.7	28.9	23.1	30.8	30.4	29.5	31.0	18.2	1.3	29.9	29.7	27.1	30.8
TSS (mg/L)	<25 mg/L above background	<5 mg/L above background	2.9	< 2.0	5.3	2.5	< 2.0	3.5	2.3	< 2.0	3.2	2.6	< 2.0	3.4	3.2	< 2.0	5.1	2.5	< 2.0	4.7	2.5	< 2.0	3.8	3.8	< 2.0	7.2
Turbidity (NTU)	<8 NTU above background	<2 NTU above background	0.46	0.28	0.96	0.39	0.29	0.48	0.41	0.27	0.71	0.41	0.19	0.76	0.24	0.17	0.36	0.22	0.16	0.29	0.36	0.24	0.42	0.20	0.10	0.32
Nutrients (µg/L)																										
Nitrate (as N)	339,000	45,000	10.2	< 10	11	17.6	< 10	34	12.4	< 10	16	< 10	< 10	< 10	21.8	< 10	69	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Metals (µg/L)																										
Aluminum	—	—	10.4	< 5	14.1	9.1	7.2	11.4	9	6.1	12.2	10.04	< 5	13.7	9.86	< 5	12.5	6.62	< 5	12.5	9.88	< 5	12.7	6.42	< 5	12.1
Arsenic	—	12.5	2.742	0.96	3.86	2.786	1.07	3.6	2.582	0.58	3.92	2.672	0.45	3.83	3.62	3.08	4.04	3.732	3.55	3.9	2.522	< 0.4	3.98	3.828	3.47	4.21
Cadmium	—	0.12	0.0262	< 0.02	0.034	0.022	< 0.02	0.03	0.0224	< 0.02	0.026	0.025	< 0.02	0.035	0.0336	0.026	0.041	0.028	0.022	0.036	0.0238	< 0.02	0.033	0.033	0.028	0.04
Chromium	—	1.5 (Cr(VI))	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.524	< 0.5	0.62	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Copper	—	—	2.462	< 0.5	5.63	0.918	< 0.5	1.66	3.428	< 0.5	9.58	3.2	< 0.5	10.6	2.712	< 0.5	4.63	2.342	< 0.5	5.83	6.102	< 0.5	20.1	2.86	< 0.5	6.83
Iron	—	—	14.6	< 10	22	11.8	< 10	16	12.4	< 10	19	15.4	< 10	24	16.4	< 10	36	11.4	< 10	17	15.4	< 10	19	11.4	< 10	17
Mercury	—	0.016	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Silver	7.5	—	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PAHs (µg/L)																										
Naphthalene	—	1.4	-	-	-	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	-	-	-	< 0.050	< 0.050	< 0.050	-	-	-	< 0.050	< 0.050	< 0.050	-	-	-

Notes: (a) = Guidelines taken from CCME Marine WQG for the protection of Aquatic Life (http://ceqg-rcqe.ccme.ca/download/en/221); (b) Salinity reported as PSU by ALS and converted to mg/L for the purpose of this table. Bold Font = max exceeding a short term guideline or mean exceeding a long term guideline; CCME = Canadian Council of Ministers of the Environment; WQG = water quality guidelines; Min = minimum; Max = maximum; — = no guideline available; PSU = practical salinity unit; TSS = total suspended solid; mg/L = milligrams per liter; < = less than; N = Nitrogen; Cr(VI) = hexavalent chromium; PAH = polycyclic aromatic hydrocarbon; µg/L = micrograms per liter; mL = milliliter.

2.4.2.1 Conventional Parameters

The pH values in 2024 water samples collected downstream of both discharge points ranged from 7.95 to 8.14 (Table 2-3) and were within the CCME WQG range for marine waters (7.0 to 8.7) and within the pH range (7.0 – 8.2) reported in previous years (Appendix 2E – Table 1). Total suspended solids were low in most samples (<2 mg/L in 20 of 40 collected samples), with a maximum concentration of 7.2 mg/L in a sample collected from the MP-06 WNW location on 12 August 2024. Turbidity levels were similarly low (<0.1 NTU to 0.96 NTU) and both TSS and turbidity values were below CCME WQGs and within previously observed annual ranges (Appendix 2E – Table 1). Salinity ranged from 1.3 to 31.0 practical salinity units (PSU) in 2024, reflective of an estuarine environment (i.e., one that fluctuates between brackish and fully saline) and dissolved oxygen levels at all stations were indicative of well-oxygenated conditions (>90% saturation; >10.4 mg/L) (Appendix 2A).

2.4.2.2 Nutrients

Nutrients were mostly undetectable over the five sampling events and when detected, concentrations were low and below applicable CCME WQGs[3]. Nitrate concentrations downstream of both discharges in 2024 were largely below the detection limit, with a combined mean concentration of 0.01 mg-N/L and a maximum concentration of 0.07 mg-N/L. Nitrate concentrations in 2024 were consistent with those reported in 2023 for the MP-05 and MP-06 discharge stations, with slightly lower mean and maximum concentrations (Table 2-3; Appendix 2E – Table 1). Nitrite concentrations were all below detection limits in 2024 (Table 2-3), and total ammonia concentrations ranged from <0.005 to 0.0112 mg-N/L (Appendix 2C).

2.4.2.3 Metals

Measured metal concentrations downstream of both discharges were lower than applicable CCME WQGs over the five sampling events.

Total concentrations for a number of metals were low and often not detectable in each of the 2024 samples (Appendix 2C). For other metals (i.e., chromium and iron), detectable concentrations were driven by the particulate form as corresponding dissolved concentrations were below detection limits.

Iron is the metal of primary interest for the MEEMP. A CCME marine WQG for iron is not available and, as such, the 2024 iron data were compared to the 2015 and 2023 range measured downstream from the MP-05 and MP-06[4] discharges (Table 2-3, Appendix 2E – Table 1). Iron concentrations detected downstream of both discharges in 2024 were within detected concentrations measured from 2017 to 2023, which ranged from <10 to 286 mg/L (Appendix 2E – Table 1). The maximum total iron concentration in 2024 (36 µg/L) is below the maximum total iron concentration of 40 µg/L measured in 2023 (Table 2-3, Figure 2-2, Figure 2-3). Total iron concentrations were below detection limits in 20 of the 40 samples collected in 2024. While the receiving environment is considered to be marine, comparisons were also made to the recent freshwater Federal Environmental Quality Guideline (FEQG; ECCC 2024) for total iron; all concentrations were below the FEQG.

[3] No CCME marine WQGs are available for ammonia and nitrite.

[4] Receiving water quality data for the MP-06 discharge are available from 2020 onwards.

The temporal trend in iron concentrations for the MP-05 and MP-06 sampling locations from 2017 onwards is shown in Figure 2-2 and Figure 2-3. Total iron concentrations in marine water samples collected in 2024 remained within the range measured in previous years in the receiving environments of the MP-05 and MP-06 site discharges and the maximum concentration measured in 2024 (36 mg/L) was marginally lower than the maximum measured in 2023 (40 mg/L). Dissolved iron concentrations were below detection limits in each of the samples collected in 2024 (Table 2-3), meaning the majority of detectable iron concentrations were driven by the particulate form and less bioavailable for uptake by aquatic biota in the marine environment.

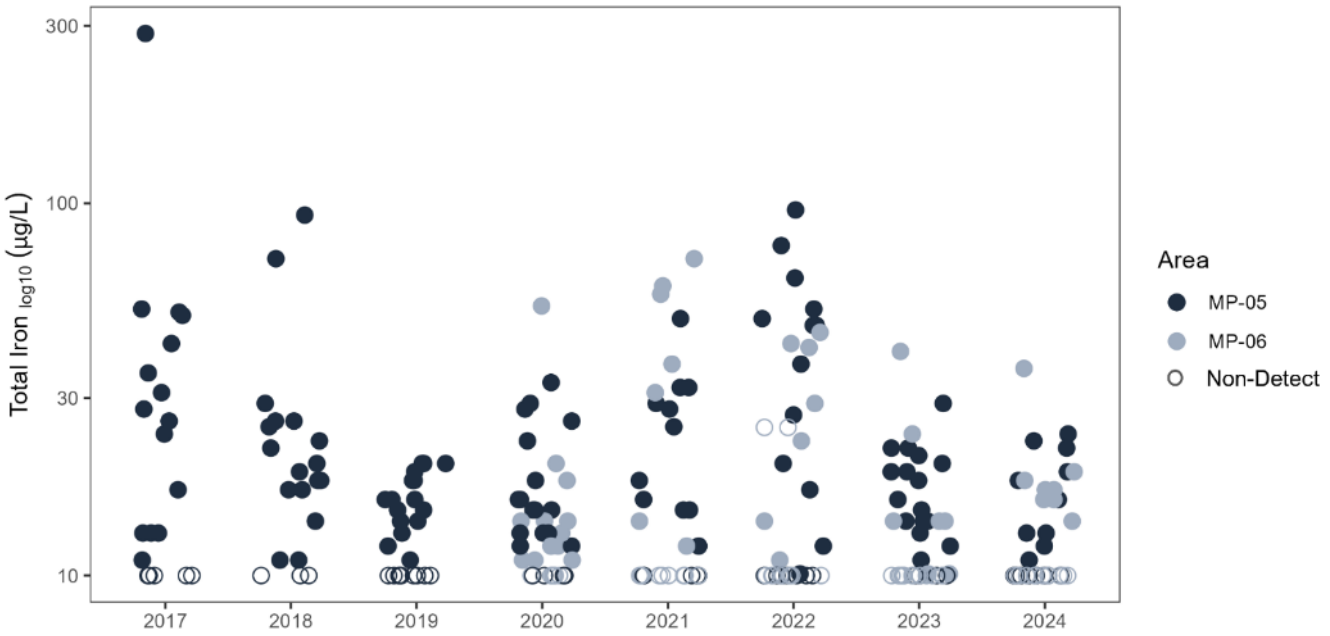


Figure 2-2: Receiving Environment Total Iron Concentrations in Milne Inlet for the MP-05 and MP-06 Milne Port Site Discharges, (2017-2024).

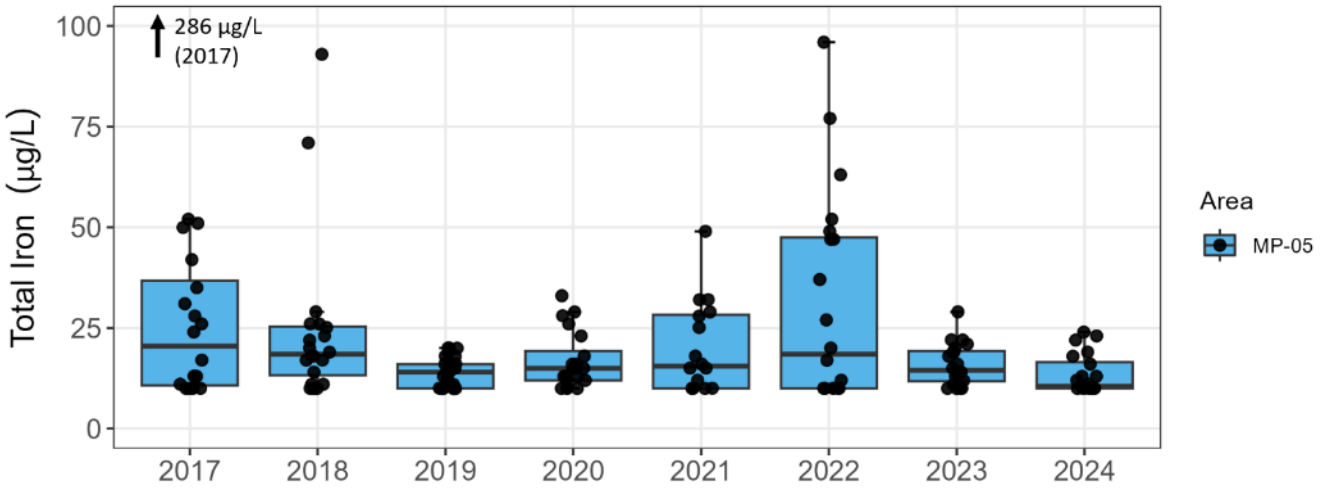


Figure 2-3: Receiving Environment Total Iron Concentrations in Milne Inlet for the MP-05 Milne Port Site Discharges, (2017-2024).

In addition to iron, several other metals of interest also do not have CCME marine WQGs. In these cases, comparisons of 2024 concentrations were made to the ranges reported in the 2015 to 2023 MEEMP water quality dataset (Appendix 2E – Table 1). These comparisons indicate that all measurements downstream from the primary site discharges MP-05 and MP-06 in 2024 were within ranges reported from previous years and decreasing for the most part. The temporal trend in copper concentrations for the MP-05 and MP-06 sampling locations from 2017 onwards is shown in Figure 2-4 and Figure 2-5. Total and dissolved copper concentrations were relatively stable in 2017 to 2018, as well as in 2020 to 2021 with the majority of samples below detection limits, though increased concentrations were measured in the 2019 sampling program. These 2019 concentrations are within the range reported for 2022 to 2024. In 2022, the mean total copper concentration of 3.5 µg/L for MP-05 and MP-06 (combined) was higher than mean concentrations calculated for previous years. In the 2024 sampling program, the mean total copper concentration was 3.0 µg/L, roughly 2.5-times greater than that measured in 2023 (1.2 µg/L), however the 2024 value remained within the historical range of measured concentrations (Figure 2-4 and Figure 2-5). The 2024 maximum total copper concentration of 20.1 µg/L was measured at the MP-06 Source location on 30 July 2024. This maximum was roughly 4.5-times greater than the 2023 maximum of 4.5 µg/L, however dissolved copper from the same sample was 20-times lower with concentration of 1.04 µg/L, meaning the majority of detectable copper concentrations were driven by the particulate form and less bioavailable for uptake by aquatic biota. While not coinciding with same sampling day (30 July 2024), total copper concentrations measured in the actual MP-06 site discharge effluent were 0.8 µg/L on 8 July 2024, and below detection limits on 15 August 2024, indicating that the site discharge may not be contributing to this elevated measured concentration.

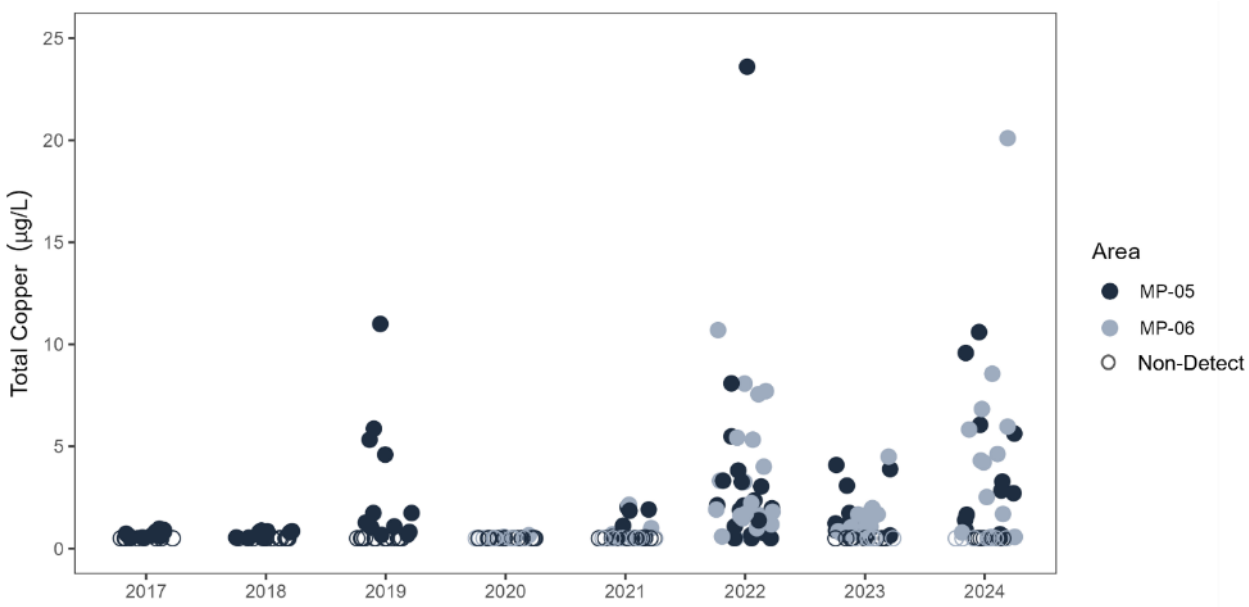


Figure 2-4: Receiving Environment Total Copper Concentrations in Milne Inlet for the MP-05 and MP-06 Milne Port Site Discharges, (2017-2024).

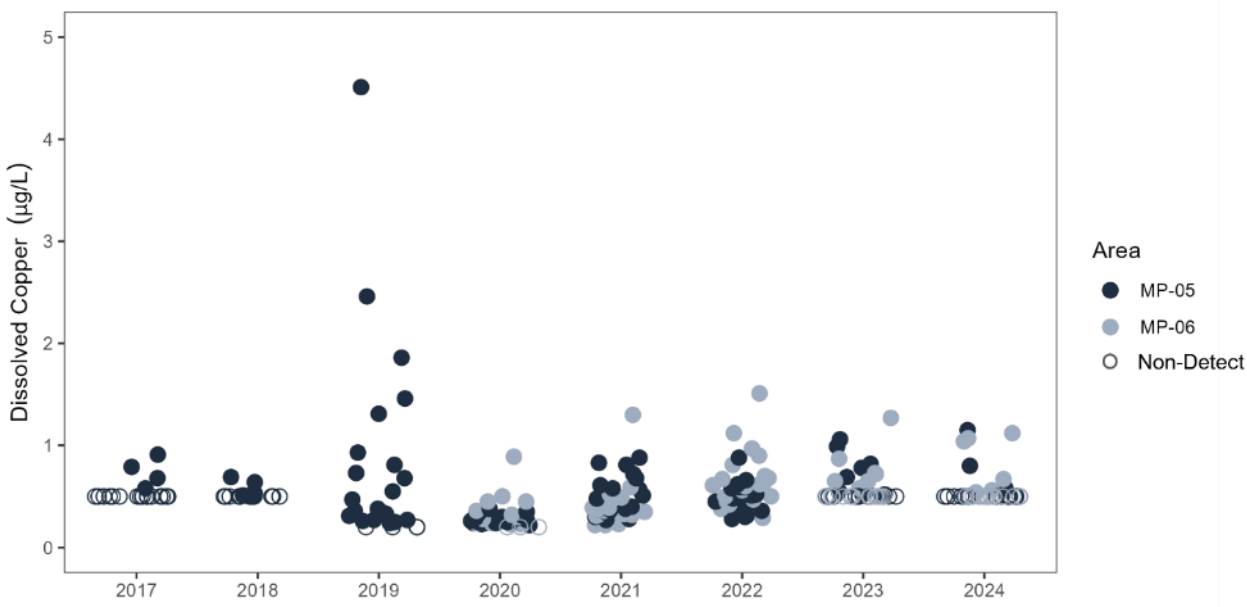


Figure 2-5: Receiving Environment Dissolved Copper Concentrations in Milne Inlet for the MP-05 and MP-06 Milne Port Site Discharges, (2017-2024).

2.4.2.4 Analysis of Temporal Trends of Iron Concentrations

In the analysis of MP-05 data, the interaction between year (as a continuous variable) and station was not significant (*P*=0.7). The model was rerun without the interaction for further interpretation. The main effect of year in the reduced model was not significant (*P*=0.4). That is, there was no significant temporal trend in total iron concentration. Year-to-year changes in iron concentrations ranged from a reduction of 25% in concentrations between 2023 and 2024 to an increase of 12% between 2020 and 2021 (Figure 2-6). Concentrations recorded in 2023 and 2024 were similar to those recorded in 2019 and 2020. Model-estimated values were 40% lower in 2024 when compared to 2017, however the difference not significant (*P*=0.12). The main effect of station was significant (*P*=0.026), with effect sizes ranging from -23% (difference between ENE and Source stations; *P*=0.023) and +16% (difference between ENE and N stations). N was 23% lower than Source (*P*=0.023); all other pairwise comparisons were significant (*P*>0.1 for all, effect sizes ranging from -18% to +16%). Overall, 2024 iron concentrations were lower than concentrations in 2023 and most previous years.

There was sufficient power to detect a single-year decrease or increase in iron concentrations at effect sizes of - 52% and +200%, respectively (Appendix 2F). The observed effect size between 2023 and 2024 was -25%. Due to the low statistical power to detect relevant effect sizes, the temporal effects should be assessed using effect sizes rather than a strict adherence to statistical significance.

The data in Figure 2-6 and the statistical results described above show that there was no significant temporal trend in total iron concentration and 2024 iron concentrations values were lower than concentrations in 2023 and most previous years.

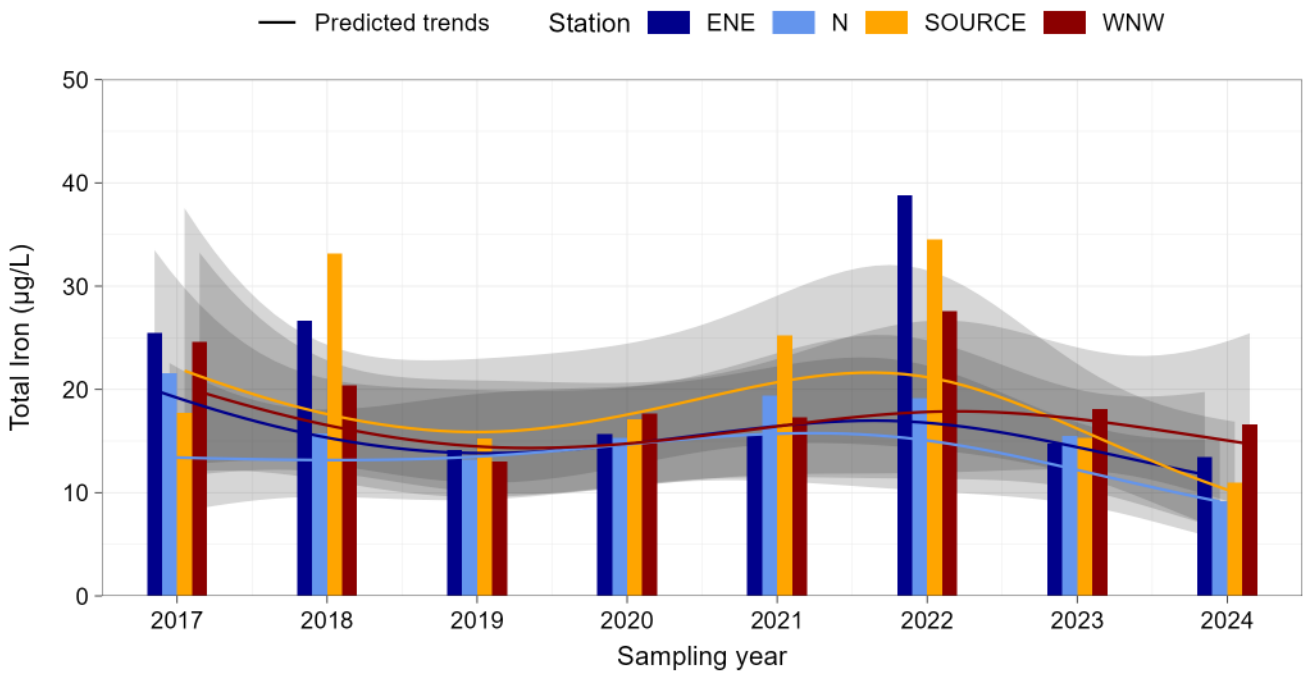


Figure 2-6: Observed Annual Means (Bars) and Estimated (Lines and Ribbons) Iron Concentrations in Milne Inlet for the MP-05 Milne Port Site, 2017-2024. Ribbons are 95% Confidence Intervals.

In the analysis of MP-06 data, the interaction between year (as a categorical variable) and station was significant (P<0.001), indicating a difference in temporal trends of iron concentrations between stations (Figure 2-7). The 2024 values were comparable to 2020 values for Source and WNW stations, lower than 2020 for N, and slightly higher than 2020 for ENE. Effect sizes of 2024 values to previous years ranged from -49% (comparison between 2024 and 2020 for N) and +600% (comparison between 2023 and 2024 for ENE, which had very low values in 2023;Figure 2-7).

Of the multiple comparisons between years within each station, 2024 values for ENE were 60% higher than 2020 (P=0.9), 34% higher than 2021 (P=0.9), 46% higher than 2022 (P=0.9), and 600% higher than 2023 (P<0.001), where iron concentrations were very low (Figure 2-7). None of other the pairwise comparisons were significant (P>0.6 for all), despite large effect sizes, ranging from a 49% decrease in iron between 2020 and 2024 for N to a 65% increase in iron between 2022 and 2024 for N. That is, at MP-06, iron concentrations at ENE were significantly higher in 2024 compared to 2023, but not any of the other previous years. This was due to the very low values recorded in 2023 and the high variability of data in other years (Figure 2-7). No significant temporal differences were found for the remaining three stations despite large effect sizes.

Overall, for ENE, 2024 values were higher than all previous years, while for N, Source, and WNW stations, 2024 values were similar to or lower than at least half of previous years. While the 2024 ENE values were higher than values at ENE in other years, they were still lower than values in all Source years and most WNW years.

There was sufficient power to detect a single-year decrease or increase in iron concentrations at effect sizes of - 57% and +135%, respectively (Appendix 2F). Due to the low statistical power to detect relevant effect sizes, the temporal effects should be assessed using effect sizes rather than a strict adherence to statistical significance.

The data in Figure 2-7 and the statistical results described above show a significant difference in 2024 values for the ENE station when compared to 2023. ENE concentrations measured in 2024 were higher than in all previous years, while for N, Source, and WNW stations, 2024 values were similar to previous years.

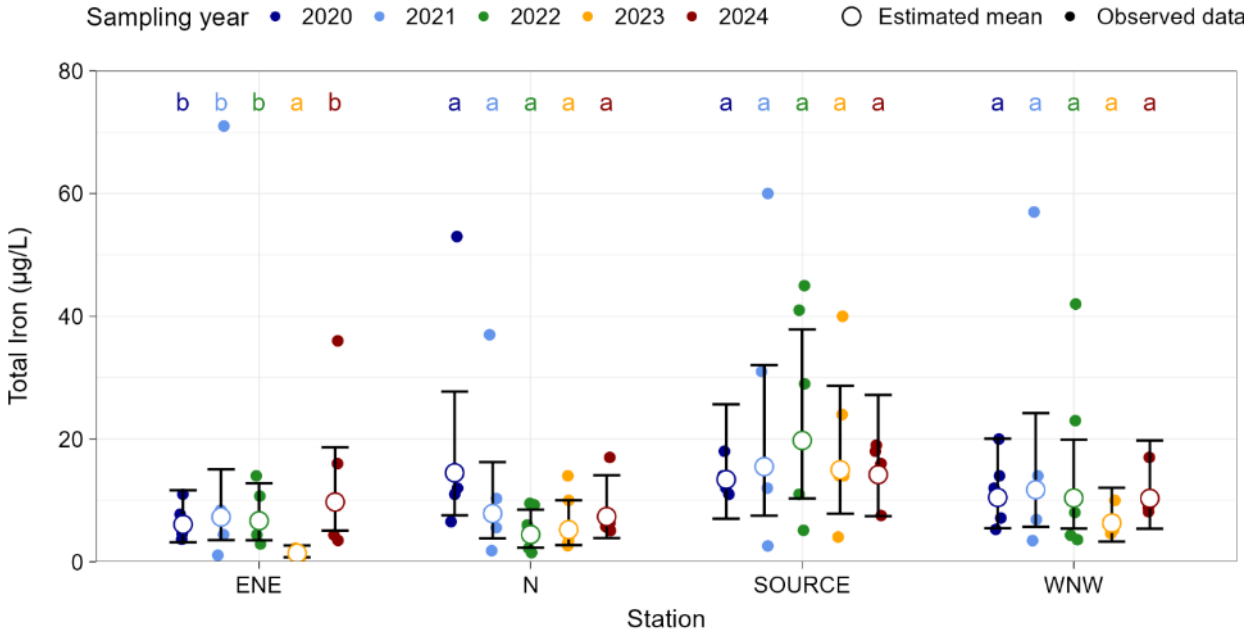


Figure 2-7: Observed (Points) and Estimated (Open Points and Error Bars) Iron Concentrations in Milne Inlet for the MP-06 Milne Port Site, 2020-2024. Error bars are 95% Confidence Intervals. Years with Different Letters Indicate Significant Difference within the Stations.

2.4.2.5 Hydrocarbons

Hydrocarbons and PAHs were not detected in any water quality sample collected during the 2024 MEEMP, except for two samples collected from the MP-06 ENE location (30 July 2024 and 18 August 2024) and one sample from the MP-05 Source location (6 August 2024).

The measured concentration of 2-methylnaphthalene (0.014 µg/L) was marginally above the detection limits (0.010 µg/L) in the MP-05-Source location on 18 August 2024. Concentrations of 1-methylnaphthalene, 2-methylnaphthalene, phenanthrene were detected in the MP-06 ENE sample on 30 July 2024, while concentrations of F3 (C16-C34), F4 (C34-C50), TEH (C10-C50), and TEH (C16-C50) were detected in the MP-06 ENE sample on 18 August 2024. No comparisons to effluent concentrations were completed as these parameters were not analyzed in the site discharges. Hydrocarbons have consistently been below DLs in water quality samples since sampling was initiated in 2015 (SEM 2016; SEM 2017; Golder 2018; Golder 2019; Golder 2020; Golder 2021; Golder 2022; WSP 2023; WSP 2024). Although, hydrocarbons and PAHs have not been previously detected in MEEMP water samples, the few detected concentrations at the MP-06 ENE and MP-05 Source locations were marginally above DLs and are not of concern. Water quality monitoring will continue in 2025 at MP-05 and MP-06 and will include monitoring of hydrocarbons to confirm if detected concentrations are present under 2025 site discharge and vessel traffic conditions.

2.4.3 TARP Assessment

Results of the water quality assessment above were screened against the TARP criteria (Table 2-2). The 'Low Risk' threshold was not triggered in 2024 because the 30-day mean for each water quality indicator was less than 75% of the applicable CCME water quality guideline for the protection of aquatic life.

Iron concentrations at the MP-05 discharge point did not show a spatial pattern or a temporal trend indicative of effects from the Port's effluent discharge. At the MP-06 discharge station, iron concentrations at ENE-2 were significantly higher in 2024 compared to 2023, but the 2024 concentrations were not significantly higher than any of the other previous years. This was due to the very low values recorded in 2023 and the high variability of data in other years. No significant temporal differences were found for the remaining three stations. While the 2024 ENE-2 values were higher than values in other years for this station, the 2024 concentrations were still lower than values in all years at Source-2 and most years at WNW-2.

2.5 Discussion

In 2024, concentrations of conventional water quality parameters, major ions, nutrients, and metals were often not detected in the water samples and did not exceed applicable CCME WQGs downstream from either discharge point (Table 2-3) and therefore are not anticipated to result in adverse effects on water quality and, by extension, aquatic biota in the receiving environment. Where guidelines were not available, maximum concentrations downstream of both discharges were within detected concentration ranges measured from the 2015 to 2023 MEEMP dataset and had decreased for many analytes when compared to previous years. For both discharges, hydrocarbons and PAHs were below detection limits in all samples, except for two samples from the MP-06 ENE location with detected concentrations of F3 (C16-C34), F4 (C34-C50), TEH (C10-C50, TEH (C16-C50), 1-methylnaphthalene, 2-methylnaphthalene, and phenanthrene, and one sample from the MP-05 Source location with a single detection concentration of 2-methylnaphthalene. Although, hydrocarbons and PAHs have not been detected in MEEMP water samples previously the few detected concentrations at the single site discharge location were marginally above DLs and are not of concern. Monitoring results from 2024 remain within original FEIS predictions (see Table 1-1), which forecasted no significant residual effects on water quality but indicated the potential for minor localized increases in TSS, nutrient, metal, and hydrocarbon concentrations.

Water quality monitoring in 2024 shows that mean total copper concentrations at both the MP-05 and MP-06 discharges were greater than those measured in 2023, however the 2024 measured concentrations remained within the historical range of measured concentrations. The 2024 maximum total copper concentration was also greater than the 2023 maximum; however, dissolved copper measured in the same sample was 20-times lower in concentration, meaning the majority of detectable copper concentrations were present in particulate form that is less bioavailable for uptake by aquatic biota.

Water quality monitoring in 2024 shows that iron concentrations in marine water samples generally remained within the range measured in previous years and were lower than measured in 2023. Results of the trend analysis indicated no significant temporal trend in total iron concentration at the MP-05 site and 2024 iron concentrations values were lower than concentrations in 2023 and most previous years. At the MP-06 site, a significant difference in 2024 values for the ENE station was seen when compared to 2023. ENE values measured in 2024 were higher than in all previous years, while for N, Source, and WNW stations, 2024 values were similar to previous years.

Dissolved concentrations tend to provide a more realistic indication of the bioavailable concentration for direct uptake from the water, particularly in turbid receiving environments (Chapman and Wang 2000); however, water quality guidelines for the protection of aquatic life are generally based on total (not dissolved) concentrations. While the receiving environment is considered to be marine, comparisons were also made to the recent freshwater FEQG (ECCC 2024) for total iron. This guideline factors in the potential for total or particulate iron to cause ecological effects via physical effects, such as smothering. Total iron concentrations were below detection limits in 20 of the 40 samples collected in 2024. However, for iron to be biologically available to phytoplankton and other marine biota, it generally needs to be in a dissolved form so that it can effectively cross biological membranes. Dissolved iron concentrations were below detection limits in each of the samples collected in 2024, meaning the majority of detectable iron concentrations were driven by the particulate form and less bioavailable for uptake by aquatic biota. Environmental conditions in the receiving environment, such as pH, dissolved oxygen concentrations, and redox potential, can influence the proportion of biologically available iron that can be released from particulates into surrounding waters. According to Millero (1998) and Lis et al. (2015), in circumneutral pH and well oxygenated environments, similar to those observed in Milne Inlet, iron tends to be poorly soluble. As a result, many open ocean waters and some freshwater systems are characterized by low dissolved iron concentrations (Johnson et al 1997; McKay et al 2004). Accordingly, iron deposition from the Project, at both present levels and in its current form, is not expected to adversely affect aquatic life.

2.6 Conclusions and Recommendations

Site drainage and effluent discharge to the marine environment does not appear to have resulted in adverse effects on marine water quality, as measured concentrations in downstream waters were generally low and/or undetectable, below applicable guidelines, and largely consistent with previous years' measurements. Monitoring results remain within original FEIS predictions, which forecasted no significant residual effects on water quality but indicated the potential for minor localized increases in TSS, nutrient, metal, and hydrocarbon concentrations.

With respect to iron, which is of primary concern for the Project, concentrations remain well within the range measured in previous years in the receiving environments of the MP-05 and MP-06 site discharges. In addition, concentrations showed a general decrease in comparison to the 2023 program results. Results of the trend analysis indicated that for MP-06, total iron concentrations at ENE were significantly higher than all previous years, while for N, Source, and WNW, 2024 values were similar to or lower than at least half of previous years. While the 2024 ENE concentration was higher than other ENE years, it was still lower than all Source years and most WNW years. The 2024 MP-05 concentrations were lower in 2024 than in 2023 and most previous years.

These results confirm that mitigation measures are functioning as intended and that Project activities are being managed in a way that has not adversely affected marine water quality. Moving forward, annual marine water quality monitoring is recommended to continue to evaluate whether site operations are affecting downstream water chemistry and to provide continuity in the established time series for the MEEMP. This recommendation is in line with commitments in the Project Certificate and the terms of the Type A Water Licence. Monitoring also serves to confirm that mitigation measures in place are working and to inform if additional mitigation or other adaptive management measures are required.

2.7 Closure

We trust this information is sufficient for your needs at this time. Should you have any questions or concerns, please do not hesitate to contact Phil Rouget, on behalf of the undersigned, at +1 250 419 4945.

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APPENDIX 2A

Water Quality Field Datasheets

Water Quality Field Log | **Project title:** CA0026317.6821 - | **Baffinland MEEMP**

Date: 30 July 2024 | Sampled By: TT/OR | Discharging During Sampling: ☐ MP05 ☐ MP06

Weather: Clear skies, 4-7°C | Wind Spd/Dir: 3-5kts SE | No active discharge

Tide: Slack / Rising

Sample Name	Depth (m)	Time	# Jars	Temp (°C)	DO (%)	DO (mg/L)	SPC (µs/cm)	Conductivity (µs/cm)	pH	ORP (mv)	NTU
MP05-Source-1-24 (WP 248)	1	14:35	10	5.9	110.5	11.90	35818	22760	8.20	245	0.0
MP05-WNW-1-24	1	15:05	6	5.8	105.0	11.50	35863	22615	8.20	232	0.0
MP05-North-1-24	1	14:55	10	5.3	107.4	11.77	35858	22583	8.20	235	0.0
MP05-ENE-1-24	1	15:45	6	6.2	111.0	11.80	35877	22963	8.20	232	0.0
MP06-Source-2-24 (New WP)	1	13:31	10	5.3	106.0	11.70	36245	22473	8.18	238	0.0
MP06-WNW-2-24	~~1~~ (20)	17:45	6	0.8	111.0	13.03	47468	25424	8.30	242	0.0
MP06-North-2-4	20 (17)	16:40	6	1.1	109.0	12.80	47135	25418	8.30	238	0.0
MP06-ENE-2-24 (MP 249)	~~1~~ (14)	17:10	10	4.1	105.0	11.80	37867	22664	8.20	209	0.0
DUP-A (MP06 New WNW) (MP06-WNW)	(20)	17:45	6	0.8	111.0	13.03	47468	25424	8.30	242	0.0
MLP-01	1	14:30	6								

Comments

MP-06-Source-2-24 @ 14:00
MP-05-Source-1-24 @ 14:40
MP-05-N-1-24 @ 16:50
↳ 17m YSI
MP-05-ENE-1-24 @ 17:20
↳ 7m YSI

MP-05-N-1-24 @ 14:58
*MP-05-N-1-24 dissolved metals & dissolved mercury @ 15:00 need filtered @ office → faulty filter
MP-05-WNW-1-24 @ 15:20
MP-05-ENE-1-24 @ 15:50
MP-05-WNW @ 17:50
↳ & DUPA ↳ 10m YSI

DUP A - MP06-WNW-2

Water Quality Field Log | **Project title:** CA0026317.6821 - | **Baffinland MEEMP**

Date: 6-Aug-24 | Sampled By: M C R PV SI | Discharging During Sampling: ☐ MP05 ☐ MP06

Weather: partly cloudy | Wind Spd/Dir: 5 km/h NW

Tide: going down

Sample Name	Depth (m)	Time	# Jars	Temp (°C)	DO (%)	DO (mg/L)	SPC (µs/cm)	Conductivity (µs/cm)	pH	ORP (mv)	NTU
MP05-Source-1-24	1	7:34	10	7.3	98.6	11.23	14,495	13 245	7.88	193.6	0.15
MP05-WNW-1-24	1	7:51	6	6.7	89.5	10.42	36777	23999	7.91	192.3	0.48
MP05-North-1-24 + DUP	1	8:15	10	6.8	95.5	10.51	36442	23008	7.98	189.7	-0.36
MP05-ENE-1-24	1	8:02	6	5.7	106.2	11.53	36959	22772	7.97	192.0	-0.08
MP06-Source-2-24	1	9:10	10	8.0	93.3	11.08	267	1871	8.28	151.5	0.32
MP06-~~WNW~~ENE-2-24 32m	~~13~~ 17	9:25	10	0.4	113.2	13.26	49461	25695	8.11	184.2	-0.81
MP06-North-2-24 39m	~~20~~ 19	9:40	6	0.3	113.1	13.27	48739	25747	8.12	185.7	-0.81
MP06-~~ENE~~WNW-2-24 32m	17	9:55	6	0.4	111.9	13.12	49522	25722	8.11	186.5	-0.83
DUP- B	1	9:15	10								
MLP- 02	NA	~~09~~:00	10								

Comments

MP06-Source 2-24 too shallow to Sample location - Sample collected at 17 W 503126 7976471

Water Quality Field Log | **Project title:** CA0026317.6821 - | **Baffinland MEEMP**

Date: 12-08-24

Sampled By: MCR DV NOB BG PH

Discharging During Sampling: No Discharge
- ☐ MP05
- ☐ MP06

Weather: mist windy

Wind Spd/Dir:

Tide: ↓

Sample Name	Depth (m)	Time	# Jars	Temp (°C)	DO (%)	DO (mg/L)	SPC (µs/cm)	Conductivity (µs/cm)	pH	ORP (mv)	NTU
MP05-Source-1-24	1	10:15	10	2.5	102.5	11.82	41627	23717	8.08	336.0	-9.29
MP05-WNW-1-24	1	10:25	6	2.0	107.5	12.36	42615	23777	8.15	307.9	-14.10
MP05-North-1-24	1	9:55	10	2.4	105.4	12.22	42006	23718	8.01	450.0	6.41
MP05-ENE-1-24 fDup	1	10:05	~~10~~ 6	2.2	102.5	11.83	42100	23750	8.01	375.3	-14.75
MP06-Source-2-24	1	10:35	10	1.2	110.3	12.92	43200	23444	8.16	296.4	-14.30
MP06-WNW-2-24	~~13~~ 1	10:55	6	0.5	111.9	13.39	44012	23418	8.20	282.1	-14.21
MP06-North-2-4	~~20~~ 19	10:45	6	0.5	113.2	13.53	44401	23429	8.20	288.1	-14.15
MP06-ENE-2-24	~~19~~ 17	11:10	10	0.5	110.3	13.23	44405	23419	8.21	277.8	-14.11
DUP-	1	10:05	6								
MLP-											

Comments

DUP C - MP05-ENE-1

Water Quality Field Log | **Project title:** CA0026317.6821 - | **Baffinland MEEMP**

Date: 15 - Aug - 24

Sampled By: MCR DV MPJ NOB AB MB

Weather: windy cloudy

Wind Spd/Dir: NW - 15 knots

Tide: going down.

Discharging During Sampling:
- ☐ MP05
- ☑ MP06

Sample Name	Depth (m)	Time	# Jars	Temp (°C)	DO (%)	DO (mg/L)	SPC (µs/cm)	Conductivity (µs/cm)	pH	ORP (mv)	NTU
MP05-Source-1-24	1	8:41	10	2.7	96.6	11.26	36215	20807	8.16	121.0	0
MP05-WNW-1-24	1	8:35	6	3.5	95.0	10.87	35470	20912	8.04	129.2	0
MP05-North-1-24	1	8:55	10	2.6	101.6	11.74	38803	22201	8.16	94.9	0
MP05-ENE-1-24	1	8:51	6	2.5	98.4	11.36	39403	22488	8.17	128.6	0
MP06-Source-2-24	1	7:46	10	3.4	99.8	11.46	36616	21400	8.08	173.4	0
MP06-WNW-2-24	17 ~~18~~	8:26	6	0.1	103.4	12.43	44898	23540	8.04	134.5	0
MP06-North-2-4	19 ~~20~~	8:18	6	0.0	103.9	12.49	45103	23558	8.03	147.0	0
MP06-ENE-2-24	17	7:55	10	0.2	106.4	12.75	44887	23589	8.09	153.9	0
DUP- D (ENE)	17	7:55	10	0.2	106.4	12.75	44837	23589	8.09	153.9	0
MLP-											

Comments

ENE - 7:57

DV

Water Quality Field Log | **Project title:** CA0026317.6821 - | **Baffinland MEEMP**

Date: 18 August

Sampled By: MCR, AB, NO, DV, MPS, MB

Weather: Overcast, 10-12°C

Wind Spd/Dir: 7-8 Kts SW

Tide: Ebb

Discharging During Sampling:
- ☐ MP05
- ☑ MP06 Active

Sample Name	Depth (m)	Time	# Jars	Temp (°C)	DO (%)	DO (mg/L)	SPC (µs/cm)	Conductivity (µs/cm)	pH	ORP (mv)	NTU
MP05-Source-1-24	1	15:16	6	4.5	106.7	10.97	42995	26078	7.94	242.1	0
MP05-WNW-1-24 + DUP	1	15:09	6	4.0	102.8	11.26	43192	25861	7.93	241.4	0
MP05-North-1-24	1	15:25	10	4.7	107.3	11.92	43165	26134	7.96	240.1	0
MP05-ENE-1-24	1	15:21	6	4.4	102.5	11.47	43207	26294	7.96	241.7	0
MP06-Source-2-24	1	14:43	10	4.2	106.6	11.59	43512	26140	7.90	136.8	0
MP06-WNW-2-24	~~1~~ 17	15:02	6	2.0	104.9	11.86	47156	26386	7.95	239.4	0
MP06-North-2-4	~~1~~ 19	14:50	6	1.8	104.3	11.83	47370	26401	7.91	213.8	0
MP06-ENE-2-24	17	14:55	10	1.9	105.8	12.00	47283	26373	7.95	230.8	0
DUP- E	1	15:10	6	4.0	106.4	11.65	43185	25838	7.94	240.6	0
MLP- 03	—	—	6								

Comments

YSI calibrated but has been giving high negative turbidity readings all program

DUP E - MP05-WNW

APPENDIX 2B

Water Quality Analytical Reports

CERTIFICATE OF ANALYSIS

Work Order	: **VA24B9990**	Page	: 1 of 16
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 09-Aug-2024 08:30
PO	: ----	Date Analysis Commenced	: 10-Aug-2024
C-O-C number	: ----	Issue Date	: 16-Aug-2024 13:00
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Angelo Salandanan	Lab Assistant	Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Ilnaz Badbezanchi	Supervisor - Metals Prep & Mercury	Metals, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Organics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
psu	practical salinity units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	*Description*
RRV	*Reported result verified by repeat analysis.*

Analytical Results

Sub-Matrix: Seawater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	06-Aug-2024 07:34	06-Aug-2024 08:15	06-Aug-2024 08:02	06-Aug-2024 07:51	06-Aug-2024 09:10
						VA24B9990-001	VA24B9990-002	VA24B9990-003	VA24B9990-004	VA24B9990-005
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		83.4	85.2	84.7	80.7	78.4
Conductivity	----	E100S/VA	2.0	µS/cm		12000	13300	12100	5320	2480
pH	----	E108/VA	0.10	pH units		8.07	8.08	8.10	8.10	8.14
Salinity	----	EC100S/VA	1.0	psu		7.0	7.9	7.1	2.9	1.3
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L		7990	9020	8300	3060	1420
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Turbidity	----	E121/VA	0.10	NTU		0.37	0.29	0.36	0.34	0.40
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		770	1270	1230	593	308
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L		814	1030	1310	608	302
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		<0.0050	0.0054	<0.0050	0.0082	0.0081
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L		13.2	15.1	13.4	6.3	<5.0
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L		3680	4160	3800	1530	666
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L		<0.20	0.22	0.20	<0.20	<0.20
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L		<0.050	0.091	<0.050	<0.050	<0.050
Nitrate (as N)	14797-55-8	E235S.NO3-T/VA	0.010	mg/L		0.011	0.034	<0.010	<0.010	<0.010
Nitrite (as N)	14797-65-0	E235S.NO2-L/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L		0.0049	0.0088	0.0058	0.0037	0.0030
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L		0.0053	0.0086	0.0054	0.0024	<0.0020
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/VA	3.0	mg/L		507	574	525	213	90.3
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L		1.31	1.02	1.02	0.95	1.07
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		1.08	1.14	1.21	1.15	1.37
Total Metals										
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L		0.0117	0.0072	0.0115	0.0102	0.0126
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L		0.00058	0.00107	0.00096	0.00045	<0.00040

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	06-Aug-2024 07:34	06-Aug-2024 08:15	06-Aug-2024 08:02	06-Aug-2024 07:51	06-Aug-2024 09:10
						VA24B9990-001	VA24B9990-002	VA24B9990-003	VA24B9990-004	VA24B9990-005
						Result	Result	Result	Result	Result
Total Metals										
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L		0.0043	0.0045	0.0048	0.0041	0.0039
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total	7440-42-8	E466S/VA	0.30	mg/L		0.47	0.64	0.81	0.37	<0.30
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L		<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L		63.6	75.6	94.5	50.7	32.4
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L		0.00606	0.00166	0.00284	0.0106	0.00856
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, total	7439-89-6	E466S/VA	0.010	mg/L		<0.010	<0.010	0.011	<0.010	0.016
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L		0.020	0.026	0.034	<0.020	<0.020
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L		159	204	262	117	53.7
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L		0.00077	0.00077	0.00079	0.00066	0.00083
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L		0.00126	0.00171	0.00198	0.00085	0.00047
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L		43.7	57.8	73.3	31.6	13.8
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L		0.0127	0.0170	0.0206	0.0091	<0.0050
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, total	7440-21-3	E468S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, total	7440-23-5	E468S.NaSi/VA	2.5	mg/L		1120	1480	1880	803	348
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L		0.836	1.12	1.39	0.588	0.268

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	06-Aug-2024 07:34	06-Aug-2024 08:15	06-Aug-2024 08:02	06-Aug-2024 07:51	06-Aug-2024 09:10
						VA24B9990-001	VA24B9990-002	VA24B9990-003	VA24B9990-004	VA24B9990-005
						Result	Result	Result	Result	Result
Total Metals										
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L		98.0	126	164	69.7	29.0
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L		0.00133	0.00134	0.00151	0.00125	0.00114
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L		0.00075	0.00102	0.00099	0.00046	<0.00040
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L		0.0042	0.0047	0.0045	0.0040	0.0038
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L		0.46	0.80	0.78	0.36	<0.30
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L		<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L		61.2	94.5	88.6	49.6	32.8
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L		0.00115	0.00080	<0.00050	0.00058	0.00107
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L		<0.020	0.031	0.033	<0.020	<0.020

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	06-Aug-2024 07:34	06-Aug-2024 08:15	06-Aug-2024 08:02	06-Aug-2024 07:51	06-Aug-2024 09:10
						VA24B9990-001	VA24B9990-002	VA24B9990-003	VA24B9990-004	VA24B9990-005
						Result	Result	Result	Result	Result
Dissolved Metals										
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L		150	252	244	114	54.8
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L		0.00058	0.00051	0.00059	0.00054	0.00054
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L		0.00119	0.00193	0.00187	0.00089	0.00050
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L		43.0	73.3	69.0	30.3	14.0
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L		0.0124	0.0207	0.0200	0.0092	<0.0050
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, dissolved	7440-21-3	E469S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, dissolved	7440-23-5	E469S.NaSi/VA	2.5	mg/L		1040	1830	1730	792	342
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L		0.817	1.39	1.36	0.610	0.272
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L		101	163	164	75.9	32.5
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L		0.00135	0.00140	0.00135	0.00132	0.00117
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421S/VA	-	-		Field	Field	Field	Field	Field

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	06-Aug-2024 07:34	06-Aug-2024 08:15	06-Aug-2024 08:02	06-Aug-2024 07:51	06-Aug-2024 09:10
						VA24B9990-001	VA24B9990-002	VA24B9990-003	VA24B9990-004	VA24B9990-005
						Result	Result	Result	Result	Result
Dissolved Metals										
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Styrene	100-42-5	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Toluene	108-88-3	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		<0.40	<0.40	----	----	<0.40
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		<0.30	<0.30	----	----	<0.30
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L		<250	<250	----	----	<250
EPH (C19-C32)	----	E601A/VA	250	µg/L		<250	<250	----	----	<250
F2 (C10-C16)	----	E601/VA	100	µg/L		<100	<100	----	----	<100
F3 (C16-C34)	----	E601/VA	250	µg/L		<250	<250	----	----	<250
F4 (C34-C50)	----	E601/VA	250	µg/L		<250	<250	----	----	<250
TEH (C10-C50)	n/a	E601/VA	400	µg/L		<400	<400	----	----	<400
TEH (C16-C50)	----	E601/VA	400	µg/L		<400	<400	----	----	<400
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	----	----	<100
F1-BTEX	----	EC580/VA	100	µg/L		<100	<100	----	----	<100
HEPHw	----	EC600A/VA	250	µg/L		<250	<250	----	----	<250
LEPHw	----	EC600A/VA	250	µg/L		<250	<250	----	----	<250
VPHw	----	EC580A/VA	100	µg/L		<100	<100	----	----	<100
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	----	----	<100
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		94.0	86.7	----	----	85.7
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		93.2	88.6	----	----	88.0
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		78.4	110	----	----	108

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	06-Aug-2024 07:34	06-Aug-2024 08:15	06-Aug-2024 08:02	06-Aug-2024 07:51	06-Aug-2024 09:10
						VA24B9990-001	VA24B9990-002	VA24B9990-003	VA24B9990-004	VA24B9990-005
						Result	Result	Result	Result	Result
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		84.6	89.4	----	----	89.4
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		100	99.7	----	----	100
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Acridine	260-94-6	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Anthracene	120-12-7	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		<0.0050	<0.0050	----	----	<0.0050
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		<0.015	<0.015	----	----	<0.015
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Chrysene	218-01-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		<0.0050	<0.0050	----	----	<0.0050
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Fluorene	86-73-7	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L		0.014	<0.010	----	----	<0.010
Naphthalene	91-20-3	E641A/VA	0.050	µg/L		<0.050	<0.050	----	----	<0.050
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L		<0.020	<0.020	----	----	<0.020
Pyrene	129-00-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Quinoline	91-22-5	E641A/VA	0.050	µg/L		<0.050	<0.050	----	----	<0.050
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%		95.7	96.6	----	----	108
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%		94.7	95.7	----	----	93.0
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%		101	104	----	----	116

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-B	MPL-02
					Client sampling date / time	06-Aug-2024 09:40	06-Aug-2024 09:25	06-Aug-2024 09:55	06-Aug-2024 00:00	06-Aug-2024 09:00
						VA24B9990-006	VA24B9990-007	VA24B9990-008	VA24B9990-009	VA24B9990-010
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		112	112	112	84.4	<1.0
Conductivity	----	E100S/VA	2.0	µS/cm		46400	46200	46100	10600	<2.0
pH	----	E108/VA	0.10	pH units		8.03	8.05	8.05	8.10	5.79
Salinity	----	EC100S/VA	1.0	psu		31.0	30.8	30.8	6.2	<1.0
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L		44300	44500	45200	7120	<10
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L		<2.0	5.1	<2.0	<2.0	<2.0
Turbidity	----	E121/VA	0.10	NTU		0.16	0.17	0.20	0.36	<0.10
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		5910	5730	5660	1240	<1.00
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L		6150	5780	5960	1050	<1.00
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		0.0059	<0.0050	0.0060	<0.0050	0.0053
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L		55.8	55.5	56.2	11.3	<5.0
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L		16700	16600	16600	3170	<50
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L		0.83	0.89	0.87	<0.20	<0.20
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L		0.087	0.099	0.090	<0.050	<0.050
Nitrate (as N)	14797-55-8	E235S.NO3-T/VA	0.010	mg/L		<0.010	<0.010	<0.010	0.030	<0.010
Nitrite (as N)	14797-65-0	E235S.NO2-L/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L		0.0235 RRV	0.0266	0.0252	0.0104	<0.0020
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L		0.0252 RRV	0.0250	0.0242	0.0069	<0.0020
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/VA	3.0	mg/L		2250	2250	2240	449	<3.0
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L		2.35	1.15	1.01	1.08	<0.50
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		0.96	1.17	1.27	1.13	<0.50
Total Metals										
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	0.0098	<0.0050
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L		0.00360	0.00361	0.00415	0.00113	<0.00040
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L		0.0084	0.0083	0.0086	0.0044	<0.0010

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-B	MPL-02
					Client sampling date / time	06-Aug-2024 09:40	06-Aug-2024 09:25	06-Aug-2024 09:55	06-Aug-2024 00:00	06-Aug-2024 09:00
						VA24B9990-006	VA24B9990-007	VA24B9990-008	VA24B9990-009	VA24B9990-010
						Result	Result	Result	Result	Result
Total Metals										
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total	7440-42-8	E466S/VA	0.30	mg/L		3.78	3.92	3.64	0.74	<0.30
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L		0.000026	0.000030	0.000040	<0.000020	<0.000020
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L		384	367	375	78.4	<1.0
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L		<0.00050	0.00062	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L		0.000061	0.000063	0.000060	<0.000050	<0.000050
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L		0.00431	0.00463	0.00683	0.00180	<0.00050
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, total	7439-89-6	E466S/VA	0.010	mg/L		<0.010	0.036	<0.010	0.011	<0.010
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L		0.160	0.157	0.153	0.026	<0.020
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L		1260	1180	1220	208	<1.0
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L		0.00053	0.00069	0.00052	0.00073	<0.00020
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L		0.00955	0.00939	0.0106	0.00165	<0.00010
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L		356	347	346	59.7	<1.0
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L		0.0985	0.0970	0.106	0.0168	<0.0050
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, total	7440-21-3	E468S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, total	7440-23-5	E468S.NaSi/VA	2.5	mg/L		9640	9010	8850	1510	<2.5
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L		6.67	6.52	7.24	1.12	<0.010
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L		759	737	773	127	<5.0

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-B	MPL-02
					Client sampling date / time	06-Aug-2024 09:40	06-Aug-2024 09:25	06-Aug-2024 09:55	06-Aug-2024 00:00	06-Aug-2024 09:00
						VA24B9990-006	VA24B9990-007	VA24B9990-008	VA24B9990-009	VA24B9990-010
						Result	Result	Result	Result	Result
Total Metals										
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L		0.00288	0.00283	0.00302	0.00131	<0.000050
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L		0.00115	0.00113	0.00121	<0.00050	<0.00050
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L		0.00400	0.00406	0.00390	0.00123	<0.00040
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L		0.0081	0.0081	0.0082	0.0047	<0.0010
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L		3.66	3.44	3.60	0.87	<0.30
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L		0.000027	<0.000020	0.000031	<0.000020	<0.000020
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L		373	366	371	90.0	<1.0
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L		0.000056	0.000053	0.000054	<0.000050	<0.000050
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L		<0.00050	0.00067	<0.00050	<0.00050	<0.00050
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L		0.154	0.147	0.147	0.031	<0.020
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L		1210	1170	1150	246	<1.0

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-B	MPL-02
					Client sampling date / time	06-Aug-2024 09:40	06-Aug-2024 09:25	06-Aug-2024 09:55	06-Aug-2024 00:00	06-Aug-2024 09:00
						VA24B9990-006	VA24B9990-007	VA24B9990-008	VA24B9990-009	VA24B9990-010
						Result	Result	Result	Result	Result
Dissolved Metals										
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L		0.00047	0.00046	0.00043	0.00051	<0.00010
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L		0.00952	0.00930	0.00928	0.00195	<0.00010
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L		342	334	343	70.9	<1.0
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L		0.0991	0.0971	0.0967	0.0200	<0.0050
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L		<0.00050	0.00055	0.00075	<0.00050	<0.00050
Silicon, dissolved	7440-21-3	E469S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, dissolved	7440-23-5	E469S.NaSi/VA	2.5	mg/L		8840	8910	9000	1860	<2.5
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L		6.82	6.64	6.48	1.34	<0.010
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L		814	799	793	164	<5.0
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L		0.00296	0.00280	0.00282	0.00149	<0.000050
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L		0.00115	0.00106	0.00107	<0.00050	<0.00050
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L		<0.0010	0.0014	<0.0010	<0.0010	<0.0010
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421S/VA	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-B	MPL-02
					Client sampling date / time	06-Aug-2024 09:40	06-Aug-2024 09:25	06-Aug-2024 09:55	06-Aug-2024 00:00	06-Aug-2024 09:00
						VA24B9990-006	VA24B9990-007	VA24B9990-008	VA24B9990-009	VA24B9990-010
						Result	Result	Result	Result	Result
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	<0.50
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	<0.50
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	<0.50
Styrene	100-42-5	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	<0.50
Toluene	108-88-3	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	<0.50
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		----	<0.40	----	<0.40	<0.40
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		----	<0.30	----	<0.30	<0.30
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	<0.50
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L		----	<250	----	<250	<250
EPH (C19-C32)	----	E601A/VA	250	µg/L		----	<250	----	<250	<250
F2 (C10-C16)	----	E601/VA	100	µg/L		----	<100	----	<100	<100
F3 (C16-C34)	----	E601/VA	250	µg/L		----	<250	----	<250	<250
F4 (C34-C50)	----	E601/VA	250	µg/L		----	<250	----	<250	<250
TEH (C10-C50)	n/a	E601/VA	400	µg/L		----	<400	----	<400	<400
TEH (C16-C50)	----	E601/VA	400	µg/L		----	<400	----	<400	<400
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L		----	<100	----	<100	<100
F1-BTEX	----	EC580/VA	100	µg/L		----	<100	----	<100	<100
HEPHw	----	EC600A/VA	250	µg/L		----	<250	----	<250	<250
LEPHw	----	EC600A/VA	250	µg/L		----	<250	----	<250	<250
VPHw	----	EC580A/VA	100	µg/L		----	<100	----	<100	<100
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L		----	<100	----	<100	<100
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		----	88.5	----	80.7	82.5
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		----	89.2	----	83.2	86.4
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		----	80.3	----	108	92.5
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		----	87.8	----	89.9	86.6

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-B	MPL-02
					Client sampling date / time	06-Aug-2024 09:40	06-Aug-2024 09:25	06-Aug-2024 09:55	06-Aug-2024 00:00	06-Aug-2024 09:00
						VA24B9990-006	VA24B9990-007	VA24B9990-008	VA24B9990-009	VA24B9990-010
						Result	Result	Result	Result	Result
Volatile Organic Compounds Surrogates										
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		----	100	----	99.9	99.2
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Acridine	260-94-6	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Anthracene	120-12-7	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		----	<0.0050	----	<0.0050	<0.0050
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		----	<0.015	----	<0.015	<0.015
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Chrysene	218-01-9	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		----	<0.0050	----	<0.0050	<0.0050
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Fluorene	86-73-7	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Naphthalene	91-20-3	E641A/VA	0.050	µg/L		----	<0.050	----	<0.050	<0.050
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L		----	<0.020	----	<0.020	<0.020
Pyrene	129-00-0	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	<0.010
Quinoline	91-22-5	E641A/VA	0.050	µg/L		----	<0.050	----	<0.050	<0.050
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%		----	99.7	----	88.6	87.0
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%		----	86.0	----	90.4	90.1
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%		----	100	----	98.0	96.6

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA24B9990**	Page	: 1 of 41
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 09-Aug-2024 08:30
PO	: ----	Issue Date	: 16-Aug-2024 12:44
C-O-C number	: ----		
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Dup-B	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-North-2-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-Source-2-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-WNW-2-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MPL-02	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
Dup-B	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-ENE-1-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-North-1-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-Source-1-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-WNW-1-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP06-ENE-2-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-North-2-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MPL-02	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE Dup-B	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-North-1-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-Source-1-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-WNW-1-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-ENE-2-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-North-2-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MPL-02	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE Dup-B	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MPL-02	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE Dup-B	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-ENE-1-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-North-1-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-Source-1-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-WNW-1-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-ENE-2-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-North-2-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-Source-2-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-WNW-2-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MPL-02	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE Dup-B	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP05-North-1-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP05-Source-1-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP05-WNW-1-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP06-ENE-2-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP06-North-2-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP06-Source-2-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP06-WNW-2-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MPL-02	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE										
Dup-B	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MPL-02	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) Dup-B	E375-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-ENE-1-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-North-1-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-Source-1-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-WNW-1-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-ENE-2-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-North-2-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-Source-2-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-WNW-2-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	11-Aug-2024	28 days	1 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved)										
MPL-02	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
Dup-B	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-ENE-1-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-North-1-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-Source-1-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-WNW-1-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-ENE-2-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-North-2-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-Source-2-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MPL-02	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Dup-B	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-North-1-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-North-2-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MP06-Source-2-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MP06-WNW-2-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MPL-02	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved)										
Dup-B	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved)										
MP05-ENE-1-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved)										
MP05-North-1-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved)										
MP05-Source-1-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved)										
MP05-WNW-1-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved)										
MP06-ENE-2-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MP06-North-2-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MP06-Source-2-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MP06-WNW-2-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MPL-02	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) Dup-B	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP06-ENE-2-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP06-North-2-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP06-Source-2-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP06-WNW-2-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MPL-02	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP05-ENE-1-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP05-North-1-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP05-Source-1-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP05-WNW-1-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) Dup-B	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) MP05-ENE-1-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) MP05-North-1-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) MP05-Source-1-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved)										
MP05-WNW-1-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved)										
MP06-ENE-2-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved)										
MP06-North-2-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved)										
MP06-Source-2-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved)										
MP06-WNW-2-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved)										
MPL-02	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-ENE-2-24	E601A	06-Aug-2024	15-Aug-2024	14 days	10 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-Source-2-24	E601A	06-Aug-2024	15-Aug-2024	14 days	10 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
Dup-B	E601A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E601A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E601A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MPL-02	E601A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E601	06-Aug-2024	15-Aug-2024	14 days	10 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E601	06-Aug-2024	15-Aug-2024	14 days	10 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) Dup-B	E601	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E601	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E601	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MPL-02	E601	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) Dup-B	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP05-North-1-24	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP05-Source-1-24	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP06-Source-2-24	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MPL-02	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) Dup-B	E358-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-ENE-1-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	10-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-North-1-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	10-Aug-2024	28 days	0 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-WNW-1-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	10-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-ENE-2-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	10-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-North-2-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	10-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-Source-2-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	10-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-WNW-2-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	10-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MPL-02	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	× EHTL	10-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-Source-1-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	8 days	× EHTL	10-Aug-2024	24 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) Dup-B	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-North-1-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-North-2-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-Source-2-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MPL-02	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE Dup-B	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-ENE-1-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-North-1-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-Source-1-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-WNW-1-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-ENE-2-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-North-2-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-Source-2-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-WNW-2-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MPL-02	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Seawater										
HDPE Dup-B	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-ENE-1-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-North-1-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-Source-1-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-WNW-1-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-ENE-2-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-North-2-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-Source-2-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-WNW-2-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Seawater										
HDPE MPL-02	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : pH by Meter										
HDPE Dup-B	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	87 hrs	× EHTR-FM	11-Aug-2024	0.25 hrs	114 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-WNW-2-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	92 hrs	× EHTR-FM	11-Aug-2024	0.25 hrs	119 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-ENE-2-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	92 hrs	× EHTR-FM	11-Aug-2024	0.25 hrs	120 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-North-2-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	92 hrs	× EHTR-FM	11-Aug-2024	0.25 hrs	120 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-Source-2-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	92 hrs	× EHTR-FM	11-Aug-2024	0.25 hrs	120 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MPL-02	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	93 hrs	× EHTR-FM	11-Aug-2024	0.25 hrs	120 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-North-1-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	93 hrs	× EHTR-FM	11-Aug-2024	0.25 hrs	121 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-ENE-1-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	94 hrs	× EHTR-FM	11-Aug-2024	0.25 hrs	121 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE MP05-WNW-1-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	94 hrs	× EHTR-FM	11-Aug-2024	0.25 hrs	121 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-Source-1-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	94 hrs	× EHTR-FM	11-Aug-2024	0.25 hrs	122 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE Dup-B	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MPL-02	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE Dup-B	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MPL-02	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE Dup-B	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	6 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-ENE-1-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-North-1-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-Source-1-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-WNW-1-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	× EHTL

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-ENE-2-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-North-2-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-Source-2-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-WNW-2-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MPL-02	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	× EHTL
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E641A	06-Aug-2024	15-Aug-2024	14 days	10 days	✓	16-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E641A	06-Aug-2024	15-Aug-2024	14 days	10 days	✓	16-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) Dup-B	E641A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E641A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP05-Source-1-24	E641A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
MPL-02	E641A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved)										
Dup-B	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved)										
MP05-ENE-1-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved)										
MP05-North-1-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved)										
MP05-Source-1-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved)										
MP05-WNW-1-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved)										
MP06-ENE-2-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved)										
MP06-North-2-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved) MP06-Source-2-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved) MP06-WNW-2-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved) MPL-02	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) Dup-B	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP06-ENE-2-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP06-North-2-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP06-Source-2-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP06-WNW-2-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MPL-02	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP05-ENE-1-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP05-North-1-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP05-Source-1-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP05-WNW-1-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) Dup-B	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP05-ENE-1-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP05-North-1-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP05-Source-1-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP05-WNW-1-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP06-ENE-2-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP06-North-2-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP06-Source-2-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP06-WNW-2-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MPL-02	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) Dup-B	E611A	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-North-1-24	E611A	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-Source-1-24	E611A	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E611A	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
MP06-Source-2-24	E611A	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
MPL-02	E611A	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1588551	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1588937	1	10	10.0	5.0	✓
Bromide in Seawater by IC	E235S.Br	1588553	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1594405	1	20	5.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1588554	1	10	10.0	5.0	✓
Conductivity in Seawater	E100S	1588550	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1597712	1	10	10.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1590581	1	10	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1588934	1	10	10.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1590566	1	10	10.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1588555	1	10	10.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1588556	1	10	10.0	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1588557	1	10	10.0	5.0	✓
pH by Meter	E108	1588552	1	10	10.0	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1588558	1	10	10.0	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1593586	1	16	6.2	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1588936	1	10	10.0	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1588938	1	10	10.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1597341	1	10	10.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1590614	1	10	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1588935	1	10	10.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1588939	1	10	10.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1590607	1	10	10.0	5.0	✓
Turbidity by Nephelometry	E121	1593175	1	19	5.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1594404	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1588551	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1588937	1	10	10.0	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1596724	2	19	10.5	5.0	✓
Bromide in Seawater by IC	E235S.Br	1588553	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1594405	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1596726	2	9	22.2	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1588554	1	10	10.0	5.0	✓
Conductivity in Seawater	E100S	1588550	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1597712	1	10	10.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1590581	1	10	10.0	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1588934	2	10	20.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1590566	1	10	10.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1588555	1	10	10.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1588556	1	10	10.0	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1588557	1	10	10.0	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1596725	2	21	9.5	5.0	✓
pH by Meter	E108	1588552	1	10	10.0	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1588558	1	10	10.0	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1593586	1	16	6.2	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1588936	1	10	10.0	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1588938	1	10	10.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1597341	1	10	10.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1590614	1	10	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1588935	1	10	10.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1588939	1	10	10.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1590607	1	10	10.0	5.0	✓
TSS by Gravimetry (Seawater)	E160S	1593605	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1593175	1	19	5.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1594404	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1588551	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1588937	1	10	10.0	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1596724	2	19	10.5	5.0	✓
Bromide in Seawater by IC	E235S.Br	1588553	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1594405	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1596726	2	9	22.2	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1588554	1	10	10.0	5.0	✓
Conductivity in Seawater	E100S	1588550	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1597712	1	10	10.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1590581	1	10	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1588934	2	10	20.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1590566	1	10	10.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1588555	1	10	10.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1588556	1	10	10.0	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1588557	1	10	10.0	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1596725	2	21	9.5	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1588558	1	10	10.0	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1593586	1	16	6.2	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1588936	1	10	10.0	5.0	✓

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1588938	1	10	10.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1597341	1	10	10.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1590614	1	10	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1588935	1	10	10.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1588939	1	10	10.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1590607	1	10	10.0	5.0	✓
TSS by Gravimetry (Seawater)	E160S	1593605	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1593175	1	19	5.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1594404	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1588937	1	10	10.0	5.0	✓
Bromide in Seawater by IC	E235S.Br	1588553	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1594405	1	20	5.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1588554	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1597712	1	10	10.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1590581	1	10	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1588934	1	10	10.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1590566	1	10	10.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1588555	1	10	10.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1588556	1	10	10.0	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1588557	1	10	10.0	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1588558	1	10	10.0	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1588936	1	10	10.0	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1588938	1	10	10.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1597341	1	10	10.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1590614	1	10	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1588935	1	10	10.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1588939	1	10	10.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1590607	1	10	10.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1594404	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Seawater	E100S ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TSS by Gravimetry (Seawater)	E160S ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids.
TDS by Gravimetry (Seawater)	E162S ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Seawater by IC	E235S.Br ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Seawater by IC	E235S.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Seawater by IC (Low Level)	E235S.F-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	TKN in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Dissolved Phosphorus is determined colourimetrically using a discrete analyzer after filtration through a 0.45 micron filter followed by heated persulfate digestion of the sample.
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Triple Quadrupole ICPMS.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Metals in Seawater by Triple Quad ICPMS	E466S ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Triple Quadrupole ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
Total Mercury in Seawater by CVAAS	E508S ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Seawater samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Mercury in Seawater by CVAAS	E509S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Seawater samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Water	BC MOE Lab Manual	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
BTEX by Headspace GC-MS	E611A ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Salinity in Water (calculation)	EC100S ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
F1-BTEX	EC580 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for TKN in Seawater	EP318S ALS Environmental - Vancouver	Water	APHA 4500-Norg D (mod)	Samples are digested at high temperature using Sulfuric Acid with Copper catalyst, which converts organic nitrogen sources to Ammonia, which is then quantified by the analytical method as TKN. This method is unsuitable for samples containing high levels of nitrate. If nitrate exceeds TKN concentration by ten times or more, results may be biased low.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Digestion for Dissolved Phosphorus in water	EP375 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are filtered through a 0.45 micron membrane filter and then heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Metals Seawater Filtration	EP421S ALS Environmental - Vancouver	Water	PUGET SOUND PROTOCOLS, EPA 6020A	This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by Collision/Reaction Cell ICPMS.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: **VA24B9990**	Page	: 1 of 23
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 09-Aug-2024 08:30
PO	: ----	Date Analysis Commenced	: 10-Aug-2024
C-O-C number	: ----	Issue Date	: 16-Aug-2024 12:55
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Angelo Salandanan	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Vancouver Metals, Burnaby, British Columbia
Ilnaz Badbezanchi	Supervisor - Metals Prep & Mercury	Vancouver Metals, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Vancouver Organics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Vancouver Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Vancouver Inorganics, Burnaby, British Columbia

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1588550)											
VA24B9990-003	MP05-ENE-1-24	Conductivity	----	E100S	2.0	µS/cm	12100	12200	1.07%	20%	----
Physical Tests (QC Lot: 1588551)											
VA24B9990-003	MP05-ENE-1-24	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	84.7	85.0	0.354%	20%	----
Physical Tests (QC Lot: 1588552)											
VA24B9990-003	MP05-ENE-1-24	pH	----	E108	0.10	pH units	8.10	8.09	0.124%	4%	----
Physical Tests (QC Lot: 1593175)											
VA24B9925-006	Anonymous	Turbidity	----	E121	0.10	NTU	1.66	1.48	12.1%	15%	----
Physical Tests (QC Lot: 1593586)											
VA24B9990-001	MP05-Source-1-24	Solids, total dissolved [TDS]	----	E162S	80	mg/L	7990	7920	0.830%	20%	----
Anions and Nutrients (QC Lot: 1588553)											
VA24B9990-001	MP05-Source-1-24	Bromide	24959-67-9	E235S.Br	5.0	mg/L	13.2	13.2	0.02	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1588554)											
VA24B9990-001	MP05-Source-1-24	Chloride	16887-00-6	E235S.Cl	50	mg/L	3680	3680	0.164%	20%	----
Anions and Nutrients (QC Lot: 1588555)											
VA24B9990-001	MP05-Source-1-24	Fluoride	16984-48-8	E235S.F-L	0.20	mg/L	<0.20	0.20	0.00009	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1588556)											
VA24B9990-001	MP05-Source-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	0.010	mg/L	0.011	0.011	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1588557)											
VA24B9990-001	MP05-Source-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1588558)											
VA24B9990-001	MP05-Source-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3.0	mg/L	507	514	1.35%	20%	----
Anions and Nutrients (QC Lot: 1588936)											
VA24B9990-001	MP05-Source-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0020	mg/L	0.0053	0.0062	0.0009	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1588937)											
VA24B9990-001	MP05-Source-1-24	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1588938)											
VA24B9990-001	MP05-Source-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1588939)											
VA24B9990-003	MP05-ENE-1-24	Phosphorus, total	7723-14-0	E372S	0.0020	mg/L	0.0058	0.0061	0.0003	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1588934)											

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Organic / Inorganic Carbon (QC Lot: 1588934) - continued											
VA24B9990-001	MP05-Source-1-24	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.31	1.07	0.24	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1588935)											
VA24B9990-003	MP05-ENE-1-24	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	1.21	1.27	0.06	Diff <2x LOR	----
Total Metals (QC Lot: 1590607)											
VA24B9990-001	MP05-Source-1-24	Silicon, total	7440-21-3	E468S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	1120	1120	0.485%	20%	----
Total Metals (QC Lot: 1590614)											
VA24B9990-001	MP05-Source-1-24	Aluminum, total	7429-90-5	E466S	0.0050	mg/L	0.0117	0.0100	0.0017	Diff <2x LOR	----
		Antimony, total	7440-36-0	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E466S	0.00040	mg/L	0.00058	0.00050	0.00008	Diff <2x LOR	----
		Barium, total	7440-39-3	E466S	0.0010	mg/L	0.0043	0.0043	0.00003	Diff <2x LOR	----
		Beryllium, total	7440-41-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E466S	0.30	mg/L	0.47	0.48	0.006	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E466S	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E466S	1.0	mg/L	63.6	63.2	0.763%	20%	----
		Cesium, total	7440-46-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E466S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E466S	0.00050	mg/L	0.00606	0.00601	0.781%	20%	----
		Gallium, total	7440-55-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E466S	0.010	mg/L	<0.010	0.010	0.0002	Diff <2x LOR	----
		Lead, total	7439-92-1	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E466S	0.020	mg/L	0.020	<0.020	0.0003	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E466S	1.0	mg/L	159	156	1.80%	20%	----
		Manganese, total	7439-96-5	E466S	0.00020	mg/L	0.00077	0.00075	0.00002	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E466S	0.00010	mg/L	0.00126	0.00120	4.82%	20%	----
		Nickel, total	7440-02-0	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E466S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E466S	1.0	mg/L	43.7	43.4	0.700%	20%	----
		Rhenium, total	7440-15-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E466S	0.0050	mg/L	0.0127	0.0126	0.00007	Diff <2x LOR	----
		Selenium, total	7782-49-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, total	7440-22-4	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1590614) - continued											
VA24B9990-001	MP05-Source-1-24	Strontium, total	7440-24-6	E466S	0.010	mg/L	0.836	0.827	1.07%	20%	----
		Sulfur, total	7704-34-9	E466S	5.0	mg/L	98.0	97.7	0.254%	20%	----
		Tellurium, total	13494-80-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E466S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E466S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E466S	0.000050	mg/L	0.00133	0.00126	5.14%	20%	----
		Vanadium, total	7440-62-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Yttrium, total	7440-65-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E466S	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1597341)											
VA24B9990-001	MP05-Source-1-24	Mercury, total	7439-97-6	E508S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1590566)											
VA24B9990-001	MP05-Source-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	1040	1060	1.90%	20%	----
Dissolved Metals (QC Lot: 1590581)											
VA24B9990-001	MP05-Source-1-24	Aluminum, dissolved	7429-90-5	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E465S	0.00040	mg/L	0.00075	0.00067	0.00008	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E465S	0.0010	mg/L	0.0042	0.0041	0.00010	Diff <2x LOR	----
		Beryllium, dissolved	7440-41-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E465S	0.30	mg/L	0.46	0.46	0.0004	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E465S	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E465S	1.0	mg/L	61.2	60.0	1.90%	20%	----
		Cesium, dissolved	7440-46-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E465S	0.00050	mg/L	0.00115	0.00109	0.00006	Diff <2x LOR	----
		Gallium, dissolved	7440-55-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E465S	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Dissolved Metals (QC Lot: 1590581) - continued											
VA24B9990-001	MP05-Source-1-24	Lead, dissolved	7439-92-1	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E465S	0.020	mg/L	<0.020	<0.020	0	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E465S	1.0	mg/L	150	148	1.46%	20%	----
		Manganese, dissolved	7439-96-5	E465S	0.00010	mg/L	0.00058	0.00054	0.00004	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E465S	0.00010	mg/L	0.00119	0.00116	2.24%	20%	----
		Nickel, dissolved	7440-02-0	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E465S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E465S	1.0	mg/L	43.0	41.4	3.79%	20%	----
		Rhenium, dissolved	7440-15-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E465S	0.0050	mg/L	0.0124	0.0119	0.0005	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E465S	0.010	mg/L	0.817	0.786	3.93%	20%	----
		Sulfur, dissolved	7704-34-9	E465S	5.0	mg/L	101	99.0	2.26%	20%	----
		Tellurium, dissolved	13494-80-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E465S	0.000050	mg/L	0.00135	0.00123	9.15%	20%	----
		Vanadium, dissolved	7440-62-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Yttrium, dissolved	7440-65-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1597712)											
VA24B9990-001	MP05-Source-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1594405)											
VA24B9772-001	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	0.51	<0.50	0.010	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	µg/L	6.52	6.48	0.628%	30%	----
		Styrene	100-42-5	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	2.16	2.21	0.06	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Volatile Organic Compounds (QC Lot: 1594405) - continued											
VA24B9772-001	Anonymous	Xylene, o-	95-47-6	E611A	0.30	µg/L	0.49	0.50	0.005	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1594404)											
VA24B9772-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----
		VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1588550)						
Conductivity	----	E100S	2	µS/cm	<2.0	----
Physical Tests (QCLot: 1588551)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1593175)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1593586)						
Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	----
Physical Tests (QCLot: 1593605)						
Solids, total suspended [TSS]	----	E160S	2	mg/L	<2.0	----
Anions and Nutrients (QCLot: 1588553)						
Bromide	24959-67-9	E235S.Br	5	mg/L	<5.0	----
Anions and Nutrients (QCLot: 1588554)						
Chloride	16887-00-6	E235S.Cl	50	mg/L	<50	----
Anions and Nutrients (QCLot: 1588555)						
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	<0.20	----
Anions and Nutrients (QCLot: 1588556)						
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1588557)						
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1588558)						
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1588936)						
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1588937)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1588938)						
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1588939)						
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 1588934)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1588935)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1588935) - continued						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1596430)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1590607)						
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	<1.0	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	<2.5	----
Total Metals (QCLot: 1590614)						
Aluminum, total	7429-90-5	E466S	0.005	mg/L	<0.0050	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	<0.0010	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	<0.00040	----
Barium, total	7440-39-3	E466S	0.001	mg/L	<0.0010	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	<0.00050	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	<0.00050	----
Boron, total	7440-42-8	E466S	0.3	mg/L	<0.30	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	<0.000020	----
Calcium, total	7440-70-2	E466S	1	mg/L	<1.0	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	<0.00050	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	<0.000050	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	<0.00050	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E466S	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	<0.00010	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	<0.020	----
Magnesium, total	7439-95-4	E466S	1	mg/L	<1.0	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	<0.00020	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	<0.00010	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E466S	1	mg/L	<1.0	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	<0.00050	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	<0.0050	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	<0.00050	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	<0.00010	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	<0.010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1590614) - continued						
Sulfur, total	7704-34-9	E466S	5	mg/L	<5.0	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	<0.00050	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	<0.000050	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	<0.00050	----
Tin, total	7440-31-5	E466S	0.001	mg/L	<0.0010	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	<0.0050	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	<0.0010	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	<0.000050	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	<0.00050	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	<0.00050	----
Total Metals (QCLot: 1597341)						
Mercury, total	7439-97-6	E508S	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1590566)						
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	<1.0	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	<2.5	----
Dissolved Metals (QCLot: 1590581)						
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	<0.0050	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	<0.0010	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	<0.00040	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	<0.0010	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	<0.00050	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	<0.00050	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	<0.30	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	<0.000020	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	<1.0	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	<0.00050	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	<0.000050	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	<0.00050	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	<0.00050	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	<0.00010	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	<0.020	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1590581) - continued						
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	<1.0	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	<0.00010	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	<1.0	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	<0.00050	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	<0.0050	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	<0.00050	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	<0.00010	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	<0.010	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	<5.0	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	<0.00050	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	<0.000050	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	<0.00050	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	<0.0010	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	<0.0050	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	<0.0010	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	<0.000050	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	<0.00050	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	<0.00050	----
Dissolved Metals (QCLot: 1597712)						
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1594405)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1594404)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Hydrocarbons (QCLot: 1594404) - continued						
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1596724)						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
Hydrocarbons (QCLot: 1596726)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Hydrocarbons (QCLot: 1598871)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Hydrocarbons (QCLot: 1598873)						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1596725)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1596725) - continued						
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1598872)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1588550)									
Conductivity	----	E100S	2	µS/cm	147 µS/cm	100	80.0	120	----
Physical Tests (QCLot: 1588551)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	104	85.0	115	----
Physical Tests (QCLot: 1588552)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1593175)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Physical Tests (QCLot: 1593586)									
Solids, total dissolved [TDS]	----	E162S	10	mg/L	1000 mg/L	105	85.0	115	----
Physical Tests (QCLot: 1593605)									
Solids, total suspended [TSS]	----	E160S	2	mg/L	150 mg/L	88.0	85.0	115	----
Anions and Nutrients (QCLot: 1588553)									
Bromide	24959-67-9	E235S.Br	5	mg/L	0.5 mg/L	100	85.0	115	----
Anions and Nutrients (QCLot: 1588554)									
Chloride	16887-00-6	E235S.Cl	50	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1588555)									
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	1 mg/L	99.9	90.0	110	----
Anions and Nutrients (QCLot: 1588556)									
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1588557)									
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	0.5 mg/L	96.9	90.0	110	----
Anions and Nutrients (QCLot: 1588558)									
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1588936)									
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	0.05 mg/L	98.2	80.0	120	----
Anions and Nutrients (QCLot: 1588937)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	106	85.0	115	----
Anions and Nutrients (QCLot: 1588938)									
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	4 mg/L	95.2	75.0	125	----
Anions and Nutrients (QCLot: 1588939)									
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	0.05 mg/L	99.5	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Organic / Inorganic Carbon (QCLot: 1588934)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	109	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1588935)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	103	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1596430)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	102	80.0	120	----
Total Metals (QCLot: 1590607)									
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	10 mg/L	106	80.0	120	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	50 mg/L	101	80.0	120	----
Total Metals (QCLot: 1590614)									
Aluminum, total	7429-90-5	E466S	0.005	mg/L	2 mg/L	96.1	80.0	120	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	1 mg/L	102	80.0	120	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	1 mg/L	99.5	80.0	120	----
Barium, total	7440-39-3	E466S	0.001	mg/L	0.25 mg/L	98.2	80.0	120	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	0.1 mg/L	93.7	80.0	120	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	1 mg/L	98.2	80.0	120	----
Boron, total	7440-42-8	E466S	0.3	mg/L	1 mg/L	87.8	80.0	120	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	0.1 mg/L	100	80.0	120	----
Calcium, total	7440-70-2	E466S	1	mg/L	50 mg/L	93.8	80.0	120	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	0.05 mg/L	101	80.0	120	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	0.25 mg/L	97.3	80.0	120	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	0.25 mg/L	97.0	80.0	120	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	0.25 mg/L	96.4	80.0	120	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	0.25 mg/L	95.8	80.0	120	----
Iron, total	7439-89-6	E466S	0.01	mg/L	1 mg/L	99.2	80.0	120	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	0.5 mg/L	98.5	80.0	120	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	0.25 mg/L	90.0	80.0	120	----
Magnesium, total	7439-95-4	E466S	1	mg/L	50 mg/L	102	80.0	120	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	0.25 mg/L	96.2	80.0	120	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	0.25 mg/L	95.3	80.0	120	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	0.5 mg/L	98.0	80.0	120	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	10 mg/L	102	80.0	120	----
Potassium, total	7440-09-7	E466S	1	mg/L	50 mg/L	97.7	80.0	120	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	0.1 mg/L	101	80.0	120	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	0.1 mg/L	95.3	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1590614) - continued									
Selenium, total	7782-49-2	E466S	0.0005	mg/L	1 mg/L	98.4	80.0	120	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	0.1 mg/L	88.9	80.0	120	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	0.25 mg/L	96.1	80.0	120	----
Sulfur, total	7704-34-9	E466S	5	mg/L	50 mg/L	99.1	80.0	120	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	0.1 mg/L	100	80.0	120	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	1 mg/L	97.6	80.0	120	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	0.1 mg/L	95.4	80.0	120	----
Tin, total	7440-31-5	E466S	0.001	mg/L	0.5 mg/L	99.7	80.0	120	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	0.25 mg/L	93.5	80.0	120	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	0.1 mg/L	97.1	80.0	120	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	0.005 mg/L	98.7	80.0	120	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	0.5 mg/L	99.9	80.0	120	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	0.1 mg/L	98.6	80.0	120	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	0.5 mg/L	97.8	80.0	120	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	0.1 mg/L	95.4	80.0	120	----
Total Metals (QCLot: 1597341)									
Mercury, total	7439-97-6	E508S	0.000005	mg/L	0 mg/L	97.6	80.0	120	----
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	10 mg/L	105	80.0	120	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	50 mg/L	103	80.0	120	----
Dissolved Metals (QCLot: 1590581)									
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	2 mg/L	98.5	80.0	120	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	1 mg/L	104	80.0	120	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	1 mg/L	111	80.0	120	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	0.25 mg/L	102	80.0	120	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	0.1 mg/L	94.0	80.0	120	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	1 mg/L	99.8	80.0	120	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	1 mg/L	88.8	80.0	120	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	0.1 mg/L	110	80.0	120	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	50 mg/L	94.9	80.0	120	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	0.05 mg/L	106	80.0	120	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	0.25 mg/L	98.8	80.0	120	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	0.25 mg/L	99.5	80.0	120	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	0.25 mg/L	99.5	80.0	120	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	0.25 mg/L	106	80.0	120	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	1 mg/L	101	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1590581) - continued									
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	0.5 mg/L	101	80.0	120	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	0.25 mg/L	93.1	80.0	120	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	50 mg/L	105	80.0	120	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	0.25 mg/L	99.7	80.0	120	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	0.5 mg/L	97.7	80.0	120	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	10 mg/L	111	80.0	120	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	50 mg/L	98.7	80.0	120	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	0.1 mg/L	103	80.0	120	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	0.1 mg/L	98.7	80.0	120	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	1 mg/L	108	80.0	120	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	0.1 mg/L	96.3	80.0	120	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	0.25 mg/L	99.8	80.0	120	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	50 mg/L	109	80.0	120	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	0.1 mg/L	110	80.0	120	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	1 mg/L	100	80.0	120	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	0.1 mg/L	102	80.0	120	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	0.5 mg/L	109	80.0	120	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	0.25 mg/L	103	80.0	120	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	0.1 mg/L	106	80.0	120	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	0.5 mg/L	99.6	80.0	120	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	0.1 mg/L	109	80.0	120	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	0.5 mg/L	99.2	80.0	120	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	0.1 mg/L	104	80.0	120	----
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	0 mg/L	99.5	80.0	120	----
Volatile Organic Compounds (QCLot: 1594405)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	105	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	110	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	108	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	105	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	109	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	112	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	106	70.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Hydrocarbons (QCLot: 1594404)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	86.0	70.0	130	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	78.6	70.0	130	----
Hydrocarbons (QCLot: 1596724)									
EPH (C10-C19)	----	E601A	250	µg/L	6490 µg/L	97.4	70.0	130	----
EPH (C19-C32)	----	E601A	250	µg/L	3360 µg/L	104	70.0	130	----
Hydrocarbons (QCLot: 1596726)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	114	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	108	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	115	70.0	130	----
Hydrocarbons (QCLot: 1598871)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	112	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	108	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	114	70.0	130	----
Hydrocarbons (QCLot: 1598873)									
EPH (C10-C19)	----	E601A	250	µg/L	6490 µg/L	102	70.0	130	----
EPH (C19-C32)	----	E601A	250	µg/L	3360 µg/L	108	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1596725)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	113	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	122	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	120	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	125	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	117	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	123	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	127	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	126	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	113	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	128	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	122	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	115	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	119	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	116	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	107	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	121	60.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1596725) - continued									
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	122	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	111	60.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1598872)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	99.2	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	109	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	109	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	116	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	110	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	94.1	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	101	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	110	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	103	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	101	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	98.4	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	88.9	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	95.6	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	84.9	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	103	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	103	60.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1588553)										
VA24B9990-002	MP05-North-1-24	Bromide	24959-67-9	E235S.Br	46.7 mg/L	50 mg/L	93.3	75.0	125	----
Anions and Nutrients (QCLot: 1588554)										
VA24B9990-002	MP05-North-1-24	Chloride	16887-00-6	E235S.Cl	9430 mg/L	10000 mg/L	94.3	75.0	125	----
Anions and Nutrients (QCLot: 1588555)										
VA24B9990-002	MP05-North-1-24	Fluoride	16984-48-8	E235S.F-L	9.33 mg/L	10 mg/L	93.3	75.0	125	----
Anions and Nutrients (QCLot: 1588556)										
VA24B9990-002	MP05-North-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	7.17 mg/L	7.5 mg/L	95.6	75.0	125	----
Anions and Nutrients (QCLot: 1588557)										
VA24B9990-002	MP05-North-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	4.66 mg/L	5 mg/L	93.2	75.0	125	----
Anions and Nutrients (QCLot: 1588558)										
VA24B9990-002	MP05-North-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	933 mg/L	1000 mg/L	93.3	75.0	125	----
Anions and Nutrients (QCLot: 1588936)										
VA24B9990-002	MP05-North-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0470 mg/L	0.05 mg/L	94.0	70.0	130	----
Anions and Nutrients (QCLot: 1588937)										
VA24B9990-002	MP05-North-1-24	Ammonia, total (as N)	7664-41-7	E298	0.107 mg/L	0.1 mg/L	107	75.0	125	----
Anions and Nutrients (QCLot: 1588938)										
VA24B9990-002	MP05-North-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	2.58 mg/L	2.5 mg/L	103	70.0	130	----
Anions and Nutrients (QCLot: 1588939)										
VA24B9990-004	MP05-WNW-1-24	Phosphorus, total	7723-14-0	E372S	0.0467 mg/L	0.05 mg/L	93.5	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1588934)										
VA24B9990-002	MP05-North-1-24	Carbon, dissolved organic [DOC]	----	E358-L	5.30 mg/L	5 mg/L	106	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1588935)										
VA24B9990-004	MP05-WNW-1-24	Carbon, total organic [TOC]	----	E355-L	5.48 mg/L	5 mg/L	110	70.0	130	----
Total Metals (QCLot: 1590607)										
VA24B9990-002	MP05-North-1-24	Silicon, total	7440-21-3	E468S.NaSi	495 mg/L	500 mg/L	98.9	70.0	130	----
		Sodium, total	7440-23-5	E468S.NaSi	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1590614)										
VA24B9990-002	MP05-North-1-24	Aluminum, total	7429-90-5	E466S	3.86 mg/L	4 mg/L	96.6	70.0	130	----
		Antimony, total	7440-36-0	E466S	0.376 mg/L	0.4 mg/L	94.1	70.0	130	----
		Arsenic, total	7440-38-2	E466S	0.385 mg/L	0.4 mg/L	96.4	70.0	130	----
		Barium, total	7440-39-3	E466S	0.383 mg/L	0.4 mg/L	95.8	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1590614) - continued										
VA24B9990-002	MP05-North-1-24	Beryllium, total	7440-41-7	E466S	0.783 mg/L	0.8 mg/L	97.9	70.0	130	----
		Bismuth, total	7440-69-9	E466S	0.181 mg/L	0.2 mg/L	90.6	70.0	130	----
		Boron, total	7440-42-8	E466S	1.77 mg/L	2 mg/L	88.6	70.0	130	----
		Cadmium, total	7440-43-9	E466S	0.0781 mg/L	0.08 mg/L	97.6	70.0	130	----
		Calcium, total	7440-70-2	E466S	70.0 mg/L	80 mg/L	87.4	70.0	130	----
		Cesium, total	7440-46-2	E466S	0.196 mg/L	0.2 mg/L	98.2	70.0	130	----
		Chromium, total	7440-47-3	E466S	0.792 mg/L	0.8 mg/L	99.0	70.0	130	----
		Cobalt, total	7440-48-4	E466S	0.385 mg/L	0.4 mg/L	96.2	70.0	130	----
		Copper, total	7440-50-8	E466S	0.363 mg/L	0.4 mg/L	90.7	70.0	130	----
		Gallium, total	7440-55-3	E466S	0.0534 mg/L	0.05 mg/L	107	70.0	130	----
		Iron, total	7439-89-6	E466S	39.5 mg/L	40 mg/L	98.8	70.0	130	----
		Lead, total	7439-92-1	E466S	0.372 mg/L	0.4 mg/L	93.1	70.0	130	----
		Lithium, total	7439-93-2	E466S	1.88 mg/L	2 mg/L	94.0	70.0	130	----
		Magnesium, total	7439-95-4	E466S	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E466S	0.393 mg/L	0.4 mg/L	98.2	70.0	130	----
		Molybdenum, total	7439-98-7	E466S	0.403 mg/L	0.4 mg/L	101	70.0	130	----
		Nickel, total	7440-02-0	E466S	0.776 mg/L	0.8 mg/L	97.0	70.0	130	----
		Phosphorus, total	7723-14-0	E466S	188 mg/L	200 mg/L	93.8	70.0	130	----
		Potassium, total	7440-09-7	E466S	74.0 mg/L	80 mg/L	92.5	70.0	130	----
		Rhenium, total	7440-15-5	E466S	0.0531 mg/L	0.05 mg/L	106	70.0	130	----
		Rubidium, total	7440-17-7	E466S	0.396 mg/L	0.4 mg/L	99.0	70.0	130	----
		Selenium, total	7782-49-2	E466S	0.796 mg/L	0.8 mg/L	99.5	70.0	130	----
		Silver, total	7440-22-4	E466S	0.0708 mg/L	0.08 mg/L	88.5	70.0	130	----
		Strontium, total	7440-24-6	E466S	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E466S	358 mg/L	400 mg/L	89.4	70.0	130	----
		Tellurium, total	13494-80-9	E466S	0.791 mg/L	0.8 mg/L	98.9	70.0	130	----
		Thallium, total	7440-28-0	E466S	0.0730 mg/L	0.08 mg/L	91.3	70.0	130	----
		Thorium, total	7440-29-1	E466S	0.322 mg/L	0.4 mg/L	80.6	70.0	130	----
		Tin, total	7440-31-5	E466S	0.386 mg/L	0.4 mg/L	96.6	70.0	130	----
		Titanium, total	7440-32-6	E466S	0.707 mg/L	0.8 mg/L	88.3	70.0	130	----
		Tungsten, total	7440-33-7	E466S	0.363 mg/L	0.4 mg/L	90.6	70.0	130	----
		Uranium, total	7440-61-1	E466S	0.0771 mg/L	0.08 mg/L	96.4	70.0	130	----
		Vanadium, total	7440-62-2	E466S	2.01 mg/L	2 mg/L	101	70.0	130	----
		Yttrium, total	7440-65-5	E466S	0.0519 mg/L	0.05 mg/L	104	70.0	130	----
		Zinc, total	7440-66-6	E466S	8.03 mg/L	8 mg/L	100	70.0	130	----
		Zirconium, total	7440-67-7	E466S	0.679 mg/L	0.8 mg/L	84.9	70.0	130	----
Total Metals (QCLot: 1597341)										
VA24B9990-002	MP05-North-1-24	Mercury, total	7439-97-6	E508S	0.0000963 mg/L	0 mg/L	96.3	70.0	130	----
Dissolved Metals (QCLot: 1590566)										
VA24B9990-002	MP05-North-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	496 mg/L	500 mg/L	99.1	70.0	130	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	ND mg/L	----	ND	70.0	130	----
Dissolved Metals (QCLot: 1590581)										
VA24B9990-002	MP05-North-1-24	Aluminum, dissolved	7429-90-5	E465S	3.64 mg/L	4 mg/L	91.1	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1590581) - continued										
VA24B9990-002	MP05-North-1-24	Antimony, dissolved	7440-36-0	E465S	0.392 mg/L	0.4 mg/L	97.9	70.0	130	----
		Arsenic, dissolved	7440-38-2	E465S	0.404 mg/L	0.4 mg/L	101	70.0	130	----
		Barium, dissolved	7440-39-3	E465S	0.395 mg/L	0.4 mg/L	98.8	70.0	130	----
		Beryllium, dissolved	7440-41-7	E465S	0.779 mg/L	0.8 mg/L	97.4	70.0	130	----
		Bismuth, dissolved	7440-69-9	E465S	0.187 mg/L	0.2 mg/L	93.4	70.0	130	----
		Boron, dissolved	7440-42-8	E465S	1.77 mg/L	2 mg/L	88.5	70.0	130	----
		Cadmium, dissolved	7440-43-9	E465S	0.0784 mg/L	0.08 mg/L	98.1	70.0	130	----
		Calcium, dissolved	7440-70-2	E465S	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E465S	0.203 mg/L	0.2 mg/L	102	70.0	130	----
		Chromium, dissolved	7440-47-3	E465S	0.761 mg/L	0.8 mg/L	95.2	70.0	130	----
		Cobalt, dissolved	7440-48-4	E465S	0.372 mg/L	0.4 mg/L	93.1	70.0	130	----
		Copper, dissolved	7440-50-8	E465S	0.360 mg/L	0.4 mg/L	90.1	70.0	130	----
		Gallium, dissolved	7440-55-3	E465S	0.0548 mg/L	0.05 mg/L	110	70.0	130	----
		Iron, dissolved	7439-89-6	E465S	37.7 mg/L	40 mg/L	94.3	70.0	130	----
		Lead, dissolved	7439-92-1	E465S	0.381 mg/L	0.4 mg/L	95.2	70.0	130	----
		Lithium, dissolved	7439-93-2	E465S	1.84 mg/L	2 mg/L	91.8	70.0	130	----
		Magnesium, dissolved	7439-95-4	E465S	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E465S	0.366 mg/L	0.4 mg/L	91.5	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E465S	0.386 mg/L	0.4 mg/L	96.4	70.0	130	----
		Nickel, dissolved	7440-02-0	E465S	0.744 mg/L	0.8 mg/L	93.0	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E465S	195 mg/L	200 mg/L	97.7	70.0	130	----
		Potassium, dissolved	7440-09-7	E465S	75.4 mg/L	80 mg/L	94.3	70.0	130	----
		Rhenium, dissolved	7440-15-5	E465S	0.0557 mg/L	0.05 mg/L	111	70.0	130	----
		Rubidium, dissolved	7440-17-7	E465S	0.389 mg/L	0.4 mg/L	97.3	70.0	130	----
		Selenium, dissolved	7782-49-2	E465S	0.829 mg/L	0.8 mg/L	104	70.0	130	----
		Silver, dissolved	7440-22-4	E465S	0.0711 mg/L	0.08 mg/L	88.9	70.0	130	----
		Strontium, dissolved	7440-24-6	E465S	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E465S	386 mg/L	400 mg/L	96.6	70.0	130	----
		Tellurium, dissolved	13494-80-9	E465S	0.792 mg/L	0.8 mg/L	99.0	70.0	130	----
		Thallium, dissolved	7440-28-0	E465S	0.0756 mg/L	0.08 mg/L	94.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E465S	0.364 mg/L	0.4 mg/L	91.1	70.0	130	----
		Tin, dissolved	7440-31-5	E465S	0.393 mg/L	0.4 mg/L	98.4	70.0	130	----
		Titanium, dissolved	7440-32-6	E465S	0.749 mg/L	0.8 mg/L	93.6	70.0	130	----
		Tungsten, dissolved	7440-33-7	E465S	0.363 mg/L	0.4 mg/L	90.7	70.0	130	----
		Uranium, dissolved	7440-61-1	E465S	0.0790 mg/L	0.08 mg/L	98.8	70.0	130	----
		Vanadium, dissolved	7440-62-2	E465S	1.93 mg/L	2 mg/L	96.6	70.0	130	----
		Yttrium, dissolved	7440-65-5	E465S	0.0552 mg/L	0.05 mg/L	110	70.0	130	----
		Zinc, dissolved	7440-66-6	E465S	7.62 mg/L	8 mg/L	95.2	70.0	130	----
		Zirconium, dissolved	7440-67-7	E465S	0.736 mg/L	0.8 mg/L	92.0	70.0	130	----
Dissolved Metals (QCLot: 1597712)										
VA24B9990-002	MP05-North-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000982 mg/L	0 mg/L	98.2	70.0	130	----
Volatile Organic Compounds (QCLot: 1594405)										
VA24B9969-001	Anonymous	Benzene	71-43-2	E611A	99.4 µg/L	100 µg/L	99.4	60.0	140	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1594405) - continued										
VA24B9969-001	Anonymous	Ethylbenzene	100-41-4	E611A	106 µg/L	100 µg/L	106	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	107 µg/L	100 µg/L	107	60.0	140	----
		Styrene	100-42-5	E611A	101 µg/L	100 µg/L	101	60.0	140	----
		Toluene	108-88-3	E611A	105 µg/L	100 µg/L	105	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	217 µg/L	200 µg/L	108	60.0	140	----
		Xylene, o-	95-47-6	E611A	103 µg/L	100 µg/L	103	60.0	140	----
Hydrocarbons (QCLot: 1594404)										
VA24B9772-002	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5020 µg/L	6310 µg/L	79.5	60.0	140	----
		VHw (C6-C10)	----	E581.VH+F1	4590 µg/L	6310 µg/L	72.7	60.0	140	----

Chain of Custody (COC) / Analytical Request Form

COC Number: 21 -

Page 1 of 1

ALS www.alsglobal.com

Canada Toll Free: 1 800 668 9878

WQ #2

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	~~Elaine Irving~~/Connor Pettem
Phone:	~~1-604-297-2680~~/1-604-296-4200
	Company address below will appear on the final report
Street:	840 Howe Street, 10th Floor
City/Province:	Vancouver, BC
Postal Code:	V6Z 2M1
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax ~~elaine.irving@wsp.com~~

Email 2 connor.pettem@wsp.com

Email 3 trish.tomlens@wsp.com

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax

Email 2

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests.

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, please contact your AM to confirm availability.

Project Information

ALS Account # / Quote #:	
Job #:	GOLD100-011
PO / AFE:	CA0026317.6821/86000/03
LSD:	
ALS Lab Work Order # (ALS use only):	9990

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	
ALS Contact: Amber Springer	Sampler: TT/MR/DV

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	General (alkalinity, turbidity, cond.)	Anions, TOC, DOC, Hard., Salinity	pH, TSS, TDS, Ammonia, TKN	Dissolved Metals (F/P)	Total Metals (P)	Dissolved Hg (F/P)	Total Hg (P)	Total Nutrients (including total phosphorus) (P)	Petroleum hydrocarbons (MTBE) (P)	Petroleum hydrocarbons (BTEX,F1) (P)	Hydrocarbons (LEPH/HEPH) (P)	PAH, F2-F4 (P)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MP05-Source-1-24	06-Aug-24	7:34	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MP05-North-1-24		8:15	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MP05-ENE-1-24		8:02	Seawater	6	R	R	R	R	R	R	R	R							
	MP05-WNW-1-24		7:51	Seawater	6	R	R	R	R	R	R	R	R							
	MP06-Source-2-24		9:10	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MP06-North-2-24		9:40	Seawater	6	R	R	R	R	R	R	R	R							
	MP06-ENE-2-24		9:25	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MP06-WNW-2-24		9:55	Seawater	6	R	R	R	R	R	R	R	R							
	DUP-B		—	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MLP-02		9:00	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			

Environmental Division
Vancouver
Work Order Reference
VA24B9990

Telephone : +1 604 253 4188

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System?
☐ YES ☑ NO

Are samples for human consumption/ use?
☐ YES ☑ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

Refer to quote (GOLD100-~~009~~ 011) for all analyses.

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
Patricia Tomlins	07 Aug 2024	13:10

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:	Received by:

Rcvd jc 9Aug2024 830 am

6, 7 °C ice pk

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white -

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

CERTIFICATE OF ANALYSIS

Work Order	: **VA24C0615**	Page	: 1 of 16
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 15-Aug-2024 08:25
PO	: ----	Date Analysis Commenced	: 18-Aug-2024
C-O-C number	: ----	Issue Date	: 23-Aug-2024 12:33
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 9		
No. of samples analysed	: 9		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Angelo Salandanan	Lab Assistant	Metals, Burnaby, British Columbia
Ilnaz Badbezanchi	Supervisor - Metals Prep & Mercury	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	Metals, Burnaby, British Columbia
Russell Zhang	Analyst	Metals, Burnaby, British Columbia
Sam Silveira	Analyst	Metals, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
psu	practical salinity units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	*Description*
DTC	*Dissolved concentration exceeds total. Results were confirmed by re-analysis.*

Analytical Results

Sub-Matrix: Seawater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	12-Aug-2024 10:15	12-Aug-2024 09:55	12-Aug-2024 10:05	12-Aug-2024 10:25	12-Aug-2024 10:35
						VA24C0615-001	VA24C0615-002	VA24C0615-003	VA24C0615-004	VA24C0615-005
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		107	107	107	107	107
Conductivity	----	E100S/VA	2.0	µS/cm		44100	44200	44100	44800	45000
pH	----	E108/VA	0.10	pH units		8.04	8.05	8.04	8.05	8.05
Salinity	----	EC100S/VA	1.0	psu		29.2	29.3	29.2	29.7	29.9
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L		42900	39400	39700	37000	44600
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L		<2.0	2.2	2.4	2.4	<2.0
Turbidity	----	E121/VA	0.10	NTU		0.38	0.44	0.28	0.19	0.24
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		5650	5380	5560	5520	4900
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L		5790	5280	5440	5590	5530
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		0.0074	0.0053	0.0057	0.0089	0.0092
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L		56.0	55.7	55.7	56.7	57.5
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L		16800	16600	16600	16900	17200
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L		0.70	0.74	0.75	0.76	0.76
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L		0.105	0.110	0.100	0.099	0.099
Nitrate (as N)	14797-55-8	E235S.NO3-T/VA	0.010	mg/L		0.016	0.024	0.011	<0.010	<0.010
Nitrite (as N)	14797-65-0	E235S.NO2-L/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L		0.0220	0.0246	0.0227	0.0229	0.0236
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L		0.0205	0.0284	0.0263	0.0225	0.0224
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/VA	3.0	mg/L		2220	2250	2250	2300	2310
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L		0.94	1.05	0.87	1.14	0.73
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		0.76	0.97	0.93	0.80	0.79
Total Metals										
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L		0.0061	0.0106	<0.0050	0.0050	<0.0050
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L		0.00392	0.00360	0.00386	0.00383	0.00398

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	12-Aug-2024 10:15	12-Aug-2024 09:55	12-Aug-2024 10:05	12-Aug-2024 10:25	12-Aug-2024 10:35
						VA24C0615-001	VA24C0615-002	VA24C0615-003	VA24C0615-004	VA24C0615-005
						Result	Result	Result	Result	Result
Total Metals										
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L		0.0080	0.0080	0.0079	0.0082	0.0081
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total	7440-42-8	E466S/VA	0.30	mg/L		3.98	3.86	3.99	4.14	4.05
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L		0.000022	<0.000020	0.000034	0.000023	0.000033
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L		405	384	398	407	399
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L		0.000061	0.000058	0.000058	0.000061	0.000055
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L		<0.00050	0.00054	0.00271	0.00092	0.00057
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, total	7439-89-6	E466S/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	0.014
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L		0.156	0.145	0.147	0.154	0.152
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L		1160	1050	1080	1110	1100
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L		0.00086	0.00094	0.00085	0.00069	0.00085
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L		0.00915	0.00860	0.00848	0.00940	0.00886
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L		349	338	341	353	351
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L		0.0957	0.0907	0.0896	0.0945	0.0934
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	0.00052	0.00074	0.00081
Silicon, total	7440-21-3	E468S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, total	7440-23-5	E468S.NaSi/VA	2.5	mg/L		9010	9180	8890	9160	9270
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L		6.30	5.98	6.02	6.31	6.25

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	12-Aug-2024 10:15	12-Aug-2024 09:55	12-Aug-2024 10:05	12-Aug-2024 10:25	12-Aug-2024 10:35
						VA24C0615-001	VA24C0615-002	VA24C0615-003	VA24C0615-004	VA24C0615-005
						Result	Result	Result	Result	Result
Total Metals										
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L		852	780	779	820	817
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L		0.00300	0.00285	0.00291	0.00296	0.00299
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L		0.00105	0.00099	0.00096	0.00102	0.00100
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	0.0081
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L		0.00358	0.00372	0.00382	0.00358	0.00352
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L		0.0082	0.0081	0.0078	0.0081	0.0080
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L		3.70	3.72	3.76	3.88	3.49
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L		0.000026	0.000025	0.000024	0.000031	<0.000020
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L		384	392	379	395	352
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L		0.000058	0.000057	0.000056	0.000057	0.000074
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	0.00112
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	0.00058 DTC
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L		0.152	0.144	0.148	0.150	0.132

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	12-Aug-2024 10:15	12-Aug-2024 09:55	12-Aug-2024 10:05	12-Aug-2024 10:25	12-Aug-2024 10:35
						VA24C0615-001	VA24C0615-002	VA24C0615-003	VA24C0615-004	VA24C0615-005
						Result	Result	Result	Result	Result
Dissolved Metals										
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L		1140	1070	1120	1100	976
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L		0.00073	0.00070	0.00070	0.00060	0.00164 DTC
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L		0.00958	0.00914	0.00885	0.00941	0.00818
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L		334	340	334	342	304
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L		0.0964	0.0938	0.0927	0.0953	0.0847
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L		<0.00050	0.00065	0.00065	0.00052	0.00068
Silicon, dissolved	7440-21-3	E469S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, dissolved	7440-23-5	E469S.NaSi/VA	2.5	mg/L		9100	9170	9140	9080	7770
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L		6.39	6.33	6.19	6.38	5.67
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L		856	815	815	815	727
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L		0.00309	0.00300	0.00292	0.00319	0.00277
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L		0.00104	0.00097	0.00104	0.00101	0.00090
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L		<0.0010	0.0010	<0.0010	<0.0010	0.0074 DTC
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421S/VA	-	-		Field	Field	Field	Field	Field

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	12-Aug-2024 10:15	12-Aug-2024 09:55	12-Aug-2024 10:05	12-Aug-2024 10:25	12-Aug-2024 10:35
						VA24C0615-001	VA24C0615-002	VA24C0615-003	VA24C0615-004	VA24C0615-005
						Result	Result	Result	Result	Result
Dissolved Metals										
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Styrene	100-42-5	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Toluene	108-88-3	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		<0.40	<0.40	----	----	<0.40
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		<0.30	<0.30	----	----	<0.30
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L		<250	<250	----	----	<250
EPH (C19-C32)	----	E601A/VA	250	µg/L		<250	<250	----	----	<250
F2 (C10-C16)	----	E601/VA	100	µg/L		<100	<100	----	----	<100
F3 (C16-C34)	----	E601/VA	250	µg/L		<250	<250	----	----	<250
F4 (C34-C50)	----	E601/VA	250	µg/L		<250	<250	----	----	<250
TEH (C10-C50)	n/a	E601/VA	400	µg/L		<400	<400	----	----	<400
TEH (C16-C50)	----	E601/VA	400	µg/L		<400	<400	----	----	<400
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	----	----	<100
F1-BTEX	----	EC580/VA	100	µg/L		<100	<100	----	----	<100
HEPHw	----	EC600A/VA	250	µg/L		<250	<250	----	----	<250
LEPHw	----	EC600A/VA	250	µg/L		<250	<250	----	----	<250
VPHw	----	EC580A/VA	100	µg/L		<100	<100	----	----	<100
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	----	----	<100
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		84.2	80.9	----	----	78.8
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		83.7	80.7	----	----	77.8
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		108	106	----	----	118

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	12-Aug-2024 10:15	12-Aug-2024 09:55	12-Aug-2024 10:05	12-Aug-2024 10:25	12-Aug-2024 10:35
						VA24C0615-001	VA24C0615-002	VA24C0615-003	VA24C0615-004	VA24C0615-005
						Result	Result	Result	Result	Result
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		98.8	97.9	----	----	98.0
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		101	101	----	----	101
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Acridine	260-94-6	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Anthracene	120-12-7	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		<0.0050	<0.0050	----	----	<0.0050
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		<0.015	<0.015	----	----	<0.015
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Chrysene	218-01-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		<0.0050	<0.0050	----	----	<0.0050
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Fluorene	86-73-7	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Naphthalene	91-20-3	E641A/VA	0.050	µg/L		<0.050	<0.050	----	----	<0.050
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L		<0.020	<0.020	----	----	<0.020
Pyrene	129-00-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Quinoline	91-22-5	E641A/VA	0.050	µg/L		<0.050	<0.050	----	----	<0.050
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%		94.0	89.3	----	----	92.0
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%		103	95.5	----	----	95.5
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%		102	95.9	----	----	95.7

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-C	----
					Client sampling date / time	12-Aug-2024 10:45	12-Aug-2024 11:10	12-Aug-2024 10:55	12-Aug-2024 00:00	----
						VA24C0615-006	VA24C0615-007	VA24C0615-008	VA24C0615-009	--------
						Result	Result	Result	Result	----
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		108	109	110	107	----
Conductivity	----	E100S/VA	2.0	µS/cm		45400	45700	45700	43900	----
pH	----	E108/VA	0.10	pH units		8.05	8.05	8.05	8.05	----
Salinity	----	EC100S/VA	1.0	psu		30.2	30.4	30.4	29.1	----
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L		43800	44300	44900	43600	----
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L		<2.0	<2.0	7.2	<2.0	----
Turbidity	----	E121/VA	0.10	NTU		0.25	0.23	0.19	0.31	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		5620	5320	5470	5340	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L		5480	5650	5490	5460	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	0.0080	----
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L		58.3	57.8	57.9	55.9	----
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L		17300	17100	17000	16600	----
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L		0.80	0.80	0.81	0.77	----
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L		0.073	0.089	0.094	0.102	----
Nitrate (as N)	14797-55-8	E235S.NO3-T/VA	0.010	mg/L		<0.010	0.069	<0.010	<0.010	----
Nitrite (as N)	14797-65-0	E235S.NO2-L/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	----
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L		0.0239	0.0235	0.0239	0.0227	----
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L		0.0224	0.0226	0.0229	0.0224	----
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/VA	3.0	mg/L		2340	2330	2340	2260	----
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L		0.89	0.76	0.96	0.83	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		0.83	0.78	0.81	0.78	----
Total Metals										
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L		<0.0050	0.0074	<0.0050	0.0054	----
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L		0.00390	0.00404	0.00421	0.00406	----
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L		0.0078	0.0083	0.0082	0.0083	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-C	----
					Client sampling date / time	12-Aug-2024 10:45	12-Aug-2024 11:10	12-Aug-2024 10:55	12-Aug-2024 00:00	----
						VA24C0615-006	VA24C0615-007	VA24C0615-008	VA24C0615-009	--------
						Result	Result	Result	Result	----
Total Metals										
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Boron, total	7440-42-8	E466S/VA	0.30	mg/L		4.07	4.14	4.11	4.09	----
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L		0.000022	0.000038	0.000035	0.000027	----
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L		398	416	402	404	----
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L		0.000056	0.000055	0.000051	0.000057	----
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L		0.00583	0.00169	<0.00050	0.00129	----
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Iron, total	7439-89-6	E466S/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	----
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	----
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L		0.152	0.152	0.151	0.153	----
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L		1090	1120	1090	1080	----
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L		0.00050	0.00049	0.00049	0.00088	----
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L		0.00884	0.00889	0.00920	0.00882	----
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	----
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L		346	359	353	355	----
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L		0.0948	0.0951	0.0955	0.0952	----
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L		0.00064	0.00067	<0.00050	0.00051	----
Silicon, total	7440-21-3	E468S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	----
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	----
Sodium, total	7440-23-5	E468S.NaSi/VA	2.5	mg/L		9360	9360	9210	9050	----
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L		6.18	6.27	6.32	6.25	----
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L		802	825	829	824	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-C	----
					Client sampling date / time	12-Aug-2024 10:45	12-Aug-2024 11:10	12-Aug-2024 10:55	12-Aug-2024 00:00	----
						VA24C0615-006	VA24C0615-007	VA24C0615-008	VA24C0615-009	--------
						Result	Result	Result	Result	----
Total Metals										
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	----
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	----
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L		0.00284	0.00311	0.00303	0.00308	----
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L		0.00100	0.00105	0.00103	0.00100	----
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	----
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	----
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L		0.00406	0.00394	0.00371	0.00392	----
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L		0.0079	0.0078	0.0077	0.0080	----
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L		4.00	3.81	3.87	3.80	----
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L		0.000034	0.000024	0.000025	0.000032	----
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L		404	384	395	391	----
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L		0.000056	<0.000050	0.000060	0.000061	----
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	----
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	----
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L		0.152	0.144	0.147	0.147	----
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L		1120	1060	1090	1060	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-C	----
					Client sampling date / time	12-Aug-2024 10:45	12-Aug-2024 11:10	12-Aug-2024 10:55	12-Aug-2024 00:00	----
						VA24C0615-006	VA24C0615-007	VA24C0615-008	VA24C0615-009	--------
						Result	Result	Result	Result	----
Dissolved Metals										
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L		0.00038	0.00040	0.00037	0.00070	----
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L		0.00949	0.00908	0.00907	0.00891	----
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	----
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L		348	335	344	339	----
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L		0.0973	0.0921	0.0941	0.0933	----
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L		0.00068	0.00070	0.00061	0.00064	----
Silicon, dissolved	7440-21-3	E469S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	----
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	----
Sodium, dissolved	7440-23-5	E469S.NaSi/VA	2.5	mg/L		9560	9310	9370	8660	----
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L		6.47	6.17	6.30	6.25	----
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L		817	818	798	798	----
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	----
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	----
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L		0.00302	0.00292	0.00302	0.00305	----
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L		0.00104	0.00097	0.00097	0.00101	----
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L		0.0014	<0.0010	0.0011	<0.0010	----
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	Field	Field	Field	----
Dissolved metals filtration location	----	EP421S/VA	-	-		Field	Field	Field	Field	----
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-C	----
					Client sampling date / time	12-Aug-2024 10:45	12-Aug-2024 11:10	12-Aug-2024 10:55	12-Aug-2024 00:00	----
						VA24C0615-006	VA24C0615-007	VA24C0615-008	VA24C0615-009	--------
						Result	Result	Result	Result	----
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Styrene	100-42-5	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Toluene	108-88-3	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		----	<0.40	----	----	----
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		----	<0.30	----	----	----
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L		----	<250	----	----	----
EPH (C19-C32)	----	E601A/VA	250	µg/L		----	<250	----	----	----
F2 (C10-C16)	----	E601/VA	100	µg/L		----	<100	----	----	----
F3 (C16-C34)	----	E601/VA	250	µg/L		----	<250	----	----	----
F4 (C34-C50)	----	E601/VA	250	µg/L		----	<250	----	----	----
TEH (C10-C50)	n/a	E601/VA	400	µg/L		----	<400	----	----	----
TEH (C16-C50)	----	E601/VA	400	µg/L		----	<400	----	----	----
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L		----	<100	----	----	----
F1-BTEX	----	EC580/VA	100	µg/L		----	<100	----	----	----
HEPHw	----	EC600A/VA	250	µg/L		----	<250	----	----	----
LEPHw	----	EC600A/VA	250	µg/L		----	<250	----	----	----
VPHw	----	EC580A/VA	100	µg/L		----	<100	----	----	----
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L		----	<100	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		----	78.2	----	----	----
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		----	80.5	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		----	86.9	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		----	95.4	----	----	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-C	----
					Client sampling date / time	12-Aug-2024 10:45	12-Aug-2024 11:10	12-Aug-2024 10:55	12-Aug-2024 00:00	----
						VA24C0615-006	VA24C0615-007	VA24C0615-008	VA24C0615-009	--------
						Result	Result	Result	Result	----
Volatile Organic Compounds Surrogates										
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		----	100	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Acridine	260-94-6	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Anthracene	120-12-7	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		----	<0.0050	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		----	<0.015	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Chrysene	218-01-9	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		----	<0.0050	----	----	----
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Fluorene	86-73-7	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Naphthalene	91-20-3	E641A/VA	0.050	µg/L		----	<0.050	----	----	----
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L		----	<0.020	----	----	----
Pyrene	129-00-0	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Quinoline	91-22-5	E641A/VA	0.050	µg/L		----	<0.050	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%		----	95.2	----	----	----
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%		----	101	----	----	----
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%		----	101	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA24C0615**	Page	: 1 of 37
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 15-Aug-2024 08:25
PO	: ----	Issue Date	: 23-Aug-2024 12:33
C-O-C number	: ----		
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 9		
No. of samples analysed	: 9		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
Dup-C	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	21-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-ENE-1-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	21-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-North-1-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	20-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-Source-1-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	20-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-WNW-1-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	21-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-ENE-2-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	21-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-North-2-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	21-Aug-2024	28 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-Source-2-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	21-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-WNW-2-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	21-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
Dup-C	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-ENE-1-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-North-1-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-Source-1-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-WNW-1-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP06-ENE-2-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP06-North-2-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE Dup-C	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-North-1-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-Source-1-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-WNW-1-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-ENE-2-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-North-2-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE Dup-C	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP06-Source-2-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP06-WNW-2-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
Dup-C	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	5 days	× EHTL	18-Aug-2024	3 days	5 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP05-ENE-1-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP05-North-1-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP05-Source-1-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP05-WNW-1-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP06-ENE-2-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP06-North-2-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-Source-2-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-WNW-2-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE Dup-C	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	5 days	× EHTL	18-Aug-2024	3 days	5 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE Dup-C	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) Dup-C	E375-T	12-Aug-2024	18-Aug-2024	3 days	5 days	× EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-ENE-1-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-North-1-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-Source-1-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-WNW-1-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-ENE-2-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-North-2-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	22-Aug-2024	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-Source-2-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-WNW-2-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) Dup-C	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-North-2-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-Source-2-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Dup-C	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-North-1-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-North-2-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MP06-Source-2-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MP06-WNW-2-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP05-ENE-1-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP05-North-1-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP05-Source-1-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP05-WNW-1-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-ENE-2-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-North-2-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-Source-2-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-WNW-2-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
Dup-C	E509S	12-Aug-2024	22-Aug-2024	28 days	9 days	✓	22-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
Dup-C	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-ENE-1-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-North-1-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-Source-1-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-WNW-1-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP06-ENE-2-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP06-North-2-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-Source-2-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-WNW-2-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) Dup-C	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-ENE-1-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-North-1-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-Source-1-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-WNW-1-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-ENE-2-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-North-2-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid)										
MP06-Source-2-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid)										
MP06-WNW-2-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP05-North-1-24	E601A	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP05-Source-1-24	E601A	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-ENE-2-24	E601A	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-Source-2-24	E601A	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP05-North-1-24	E601	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP05-Source-1-24	E601	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-ENE-2-24	E601	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓

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			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-Source-2-24	E601	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP05-North-1-24	E581.VH+F1	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP05-Source-1-24	E581.VH+F1	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP06-ENE-2-24	E581.VH+F1	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP06-Source-2-24	E581.VH+F1	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
Dup-C	E358-L	12-Aug-2024	18-Aug-2024	3 days	5 days	× EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP05-ENE-1-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP05-North-1-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP05-Source-1-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	28 days	0 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-WNW-1-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-ENE-2-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-North-2-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-Source-2-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-WNW-2-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	× EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) Dup-C	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-North-1-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓

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			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-North-2-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-Source-2-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE Dup-C	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-ENE-1-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-North-1-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-Source-1-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-WNW-1-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-ENE-2-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-North-2-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-Source-2-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-WNW-2-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE Dup-C	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-ENE-1-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-North-1-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-Source-1-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Seawater										
HDPE MP05-WNW-1-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-ENE-2-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-North-2-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-Source-2-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-WNW-2-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : pH by Meter										
HDPE Dup-C	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	140 hrs	× EHTR-FM	18-Aug-2024	0.25 hrs	143 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-ENE-2-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	144 hrs	× EHTR-FM	18-Aug-2024	0.25 hrs	146 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-WNW-2-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	144 hrs	× EHTR-FM	18-Aug-2024	0.25 hrs	147 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-Source-1-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	145 hrs	× EHTR-FM	18-Aug-2024	0.25 hrs	147 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE MP05-WNW-1-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	145 hrs	× EHTR-FM	18-Aug-2024	0.25 hrs	147 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-North-2-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	145 hrs	× EHTR-FM	18-Aug-2024	0.25 hrs	147 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-Source-2-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	145 hrs	× EHTR-FM	18-Aug-2024	0.25 hrs	147 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-ENE-1-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	145 hrs	× EHTR-FM	18-Aug-2024	0.25 hrs	148 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-North-1-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	145 hrs	× EHTR-FM	18-Aug-2024	0.25 hrs	148 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE Dup-C	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE Dup-C	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE Dup-C	E121	12-Aug-2024	----	----	----		20-Aug-2024	3 days	7 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-ENE-1-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-North-1-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-Source-1-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	× EHTL

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-WNW-1-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-ENE-2-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-North-2-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-Source-2-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-WNW-2-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	× EHTL
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E641A	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E641A	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E641A	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E641A	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) Dup-C	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-ENE-1-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-North-1-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-Source-1-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-WNW-1-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-ENE-2-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-North-2-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-Source-2-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-WNW-2-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) Dup-C	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-Source-1-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-North-2-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) Dup-C	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-Source-1-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-North-2-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-North-1-24	E611A	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-Source-1-24	E611A	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E611A	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-Source-2-24	E611A	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1602717	1	9	11.1	5.0	✓
Ammonia by Fluorescence	E298	1602747	1	20	5.0	5.0	✓
Bromide in Seawater by IC	E235S.Br	1602719	1	9	11.1	5.0	✓
BTEX by Headspace GC-MS	E611A	1602864	1	8	12.5	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1602720	1	9	11.1	5.0	✓
Conductivity in Seawater	E100S	1602716	1	17	5.8	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1609571	1	9	11.1	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1604968	1	9	11.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1602744	1	20	5.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1604967	1	9	11.1	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1602721	1	9	11.1	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1602722	1	9	11.1	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1602723	1	9	11.1	5.0	✓
pH by Meter	E108	1602718	1	17	5.8	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1602724	1	9	11.1	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1604452	1	9	11.1	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1602746	1	9	11.1	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1602748	1	20	5.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1608138	1	9	11.1	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1604910	1	9	11.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1602745	1	20	5.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1602749	1	20	5.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1604909	1	9	11.1	5.0	✓
Turbidity by Nephelometry	E121	1604576	2	40	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1602862	1	11	9.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1602717	1	9	11.1	5.0	✓
Ammonia by Fluorescence	E298	1602747	1	20	5.0	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1607062	1	9	11.1	5.0	✓
Bromide in Seawater by IC	E235S.Br	1602719	1	9	11.1	5.0	✓
BTEX by Headspace GC-MS	E611A	1602864	1	8	12.5	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1607064	1	8	12.5	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1602720	1	9	11.1	5.0	✓
Conductivity in Seawater	E100S	1602716	1	17	5.8	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1609571	1	9	11.1	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1604968	1	9	11.1	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1602744	1	20	5.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1604967	1	9	11.1	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1602721	1	9	11.1	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1602722	1	9	11.1	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1602723	1	9	11.1	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1607063	1	13	7.6	5.0	✓
pH by Meter	E108	1602718	1	17	5.8	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1602724	1	9	11.1	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1604452	1	9	11.1	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1602746	1	9	11.1	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1602748	1	20	5.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1608138	1	9	11.1	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1604910	1	9	11.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1602745	1	20	5.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1602749	1	20	5.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1604909	1	9	11.1	5.0	✓
TSS by Gravimetry (Seawater)	E160S	1604441	1	9	11.1	5.0	✓
Turbidity by Nephelometry	E121	1604576	2	40	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1602862	1	11	9.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1602717	1	9	11.1	5.0	✓
Ammonia by Fluorescence	E298	1602747	1	20	5.0	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1607062	1	9	11.1	5.0	✓
Bromide in Seawater by IC	E235S.Br	1602719	1	9	11.1	5.0	✓
BTEX by Headspace GC-MS	E611A	1602864	1	8	12.5	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1607064	1	8	12.5	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1602720	1	9	11.1	5.0	✓
Conductivity in Seawater	E100S	1602716	1	17	5.8	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1609571	1	9	11.1	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1604968	1	9	11.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1602744	1	20	5.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1604967	1	9	11.1	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1602721	1	9	11.1	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1602722	1	9	11.1	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1602723	1	9	11.1	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1607063	1	13	7.6	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1602724	1	9	11.1	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1604452	1	9	11.1	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1602746	1	9	11.1	5.0	✓

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1602748	1	20	5.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1608138	1	9	11.1	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1604910	1	9	11.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1602745	1	20	5.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1602749	1	20	5.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1604909	1	9	11.1	5.0	✓
TSS by Gravimetry (Seawater)	E160S	1604441	1	9	11.1	5.0	✓
Turbidity by Nephelometry	E121	1604576	2	40	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1602862	1	11	9.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1602747	1	20	5.0	5.0	✓
Bromide in Seawater by IC	E235S.Br	1602719	1	9	11.1	5.0	✓
BTEX by Headspace GC-MS	E611A	1602864	1	8	12.5	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1602720	1	9	11.1	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1609571	1	9	11.1	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1604968	1	9	11.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1602744	1	20	5.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1604967	1	9	11.1	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1602721	1	9	11.1	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1602722	1	9	11.1	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1602723	1	9	11.1	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1602724	1	9	11.1	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1602746	1	9	11.1	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1602748	1	20	5.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1608138	1	9	11.1	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1604910	1	9	11.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1602745	1	20	5.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1602749	1	20	5.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1604909	1	9	11.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1602862	1	11	9.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Seawater	E100S ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TSS by Gravimetry (Seawater)	E160S ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids.
TDS by Gravimetry (Seawater)	E162S ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Seawater by IC	E235S.Br ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Seawater by IC	E235S.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Seawater by IC (Low Level)	E235S.F-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	TKN in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Dissolved Phosphorus is determined colourimetrically using a discrete analyzer after filtration through a 0.45 micron filter followed by heated persulfate digestion of the sample.
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Triple Quadrupole ICPMS.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Metals in Seawater by Triple Quad ICPMS	E466S ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Triple Quadrupole ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
Total Mercury in Seawater by CVAAS	E508S ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Seawater samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Mercury in Seawater by CVAAS	E509S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Seawater samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Water	BC MOE Lab Manual	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
BTEX by Headspace GC-MS	E611A ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Salinity in Water (calculation)	EC100S ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
F1-BTEX	EC580 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for TKN in Seawater	EP318S ALS Environmental - Vancouver	Water	APHA 4500-Norg D (mod)	Samples are digested at high temperature using Sulfuric Acid with Copper catalyst, which converts organic nitrogen sources to Ammonia, which is then quantified by the analytical method as TKN. This method is unsuitable for samples containing high levels of nitrate. If nitrate exceeds TKN concentration by ten times or more, results may be biased low.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Digestion for Dissolved Phosphorus in water	EP375 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are filtered through a 0.45 micron membrane filter and then heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Metals Seawater Filtration	EP421S ALS Environmental - Vancouver	Water	PUGET SOUND PROTOCOLS, EPA 6020A	This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by Collision/Reaction Cell ICPMS.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

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QUALITY CONTROL REPORT

Work Order	: **VA24C0615**	Page	: 1 of 21
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 15-Aug-2024 08:25
PO	: ----	Date Analysis Commenced	: 18-Aug-2024
C-O-C number	: ----	Issue Date	: 23-Aug-2024 12:34
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 9		
No. of samples analysed	: 9		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

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General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1602716)											
VA24C0615-003	MP05-ENE-1-24	Conductivity	----	E100S	2.0	µS/cm	44100	44100	0.00%	20%	----
Physical Tests (QC Lot: 1602717)											
VA24C0615-003	MP05-ENE-1-24	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	107	107	0.00%	20%	----
Physical Tests (QC Lot: 1602718)											
VA24C0615-003	MP05-ENE-1-24	pH	----	E108	0.10	pH units	8.04	8.04	0.00%	4%	----
Physical Tests (QC Lot: 1604452)											
VA24C0615-001	MP05-Source-1-24	Solids, total dissolved [TDS]	----	E162S	800	mg/L	42900	40900	4.78%	20%	----
Physical Tests (QC Lot: 1604576)											
KS2403266-006	Anonymous	Turbidity	----	E121	0.10	NTU	2.37	2.57	8.10%	15%	----
Physical Tests (QC Lot: 1605151)											
FJ2402399-001	Anonymous	Turbidity	----	E121	0.10	NTU	0.20	0.22	0.02	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1602719)											
VA24C0615-001	MP05-Source-1-24	Bromide	24959-67-9	E235S.Br	5.0	mg/L	56.0	55.2	1.36%	20%	----
Anions and Nutrients (QC Lot: 1602720)											
VA24C0615-001	MP05-Source-1-24	Chloride	16887-00-6	E235S.Cl	50	mg/L	16800	16400	2.29%	20%	----
Anions and Nutrients (QC Lot: 1602721)											
VA24C0615-001	MP05-Source-1-24	Fluoride	16984-48-8	E235S.F-L	0.20	mg/L	0.70	0.73	0.03	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1602722)											
VA24C0615-001	MP05-Source-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	0.010	mg/L	0.016	<0.010	0.006	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1602723)											
VA24C0615-001	MP05-Source-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1602724)											
VA24C0615-001	MP05-Source-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3.0	mg/L	2220	2230	0.473%	20%	----
Anions and Nutrients (QC Lot: 1602746)											
VA24C0615-001	MP05-Source-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0040	mg/L	0.0205	0.0207	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1602747)											
VA24C0615-001	MP05-Source-1-24	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0074	0.0074	0.00004	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1602748)											
VA24C0615-001	MP05-Source-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	0.050	mg/L	0.105	0.098	0.007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1602749)											

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Anions and Nutrients (QC Lot: 1602749) - continued											
VA24C0615-001	MP05-Source-1-24	Phosphorus, total	7723-14-0	E372S	0.0040	mg/L	0.0220	0.0227	0.0007	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1602744)											
VA24C0839-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	0.69	0.70	0.010	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1602745)											
VA24C0615-001	MP05-Source-1-24	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	0.76	0.66	0.10	Diff <2x LOR	----
Total Metals (QC Lot: 1604909)											
VA24C0615-001	MP05-Source-1-24	Silicon, total	7440-21-3	E468S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	9010	9180	1.84%	20%	----
Total Metals (QC Lot: 1604910)											
VA24C0615-001	MP05-Source-1-24	Aluminum, total	7429-90-5	E466S	0.0050	mg/L	0.0061	0.0059	0.0002	Diff <2x LOR	----
		Antimony, total	7440-36-0	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E466S	0.00040	mg/L	0.00392	0.00388	0.00004	Diff <2x LOR	----
		Barium, total	7440-39-3	E466S	0.0010	mg/L	0.0080	0.0081	0.00008	Diff <2x LOR	----
		Beryllium, total	7440-41-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E466S	0.30	mg/L	3.98	4.11	3.36%	20%	----
		Cadmium, total	7440-43-9	E466S	0.000020	mg/L	0.000022	0.000021	0.000001	Diff <2x LOR	----
		Calcium, total	7440-70-2	E466S	1.0	mg/L	405	394	2.78%	20%	----
		Cesium, total	7440-46-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E466S	0.000050	mg/L	0.000061	0.000064	0.000002	Diff <2x LOR	----
		Copper, total	7440-50-8	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Gallium, total	7440-55-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E466S	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, total	7439-92-1	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E466S	0.020	mg/L	0.156	0.154	0.002	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E466S	1.0	mg/L	1160	1090	6.56%	20%	----
		Manganese, total	7439-96-5	E466S	0.00020	mg/L	0.00086	0.00085	0.00001	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E466S	0.00010	mg/L	0.00915	0.00904	1.14%	20%	----
		Nickel, total	7440-02-0	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E466S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E466S	1.0	mg/L	349	344	1.52%	20%	----
		Rhenium, total	7440-15-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E466S	0.0050	mg/L	0.0957	0.0930	2.82%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1604910) - continued											
VA24C0615-001	MP05-Source-1-24	Selenium, total	7782-49-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, total	7440-22-4	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, total	7440-24-6	E466S	0.010	mg/L	6.30	6.23	1.07%	20%	----
		Sulfur, total	7704-34-9	E466S	5.0	mg/L	852	796	6.83%	20%	----
		Tellurium, total	13494-80-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E466S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E466S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E466S	0.000050	mg/L	0.00300	0.00309	2.88%	20%	----
		Vanadium, total	7440-62-2	E466S	0.00050	mg/L	0.00105	0.00097	0.00008	Diff <2x LOR	----
		Yttrium, total	7440-65-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E466S	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1608138)											
VA24C0615-001	MP05-Source-1-24	Mercury, total	7439-97-6	E508S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1604967)											
VA24C0615-001	MP05-Source-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	9100	9110	0.138%	20%	----
Dissolved Metals (QC Lot: 1604968)											
VA24C0615-001	MP05-Source-1-24	Aluminum, dissolved	7429-90-5	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E465S	0.00040	mg/L	0.00358	0.00341	0.00017	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E465S	0.0010	mg/L	0.0082	0.0076	0.0006	Diff <2x LOR	----
		Beryllium, dissolved	7440-41-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E465S	0.30	mg/L	3.70	3.76	1.48%	20%	----
		Cadmium, dissolved	7440-43-9	E465S	0.000020	mg/L	0.000026	0.000026	0.00000001	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E465S	1.0	mg/L	384	380	0.935%	20%	----
		Cesium, dissolved	7440-46-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E465S	0.000050	mg/L	0.000058	0.000058	0.0000008	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Dissolved Metals (QC Lot: 1604968) - continued											
VA24C0615-001	MP05-Source-1-24	Gallium, dissolved	7440-55-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E465S	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E465S	0.020	mg/L	0.152	0.148	0.004	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E465S	1.0	mg/L	1140	1090	4.62%	20%	----
		Manganese, dissolved	7439-96-5	E465S	0.00010	mg/L	0.00073	0.00065	0.00008	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E465S	0.00010	mg/L	0.00958	0.00884	8.11%	20%	----
		Nickel, dissolved	7440-02-0	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E465S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E465S	1.0	mg/L	334	324	2.98%	20%	----
		Rhenium, dissolved	7440-15-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E465S	0.0050	mg/L	0.0964	0.0906	6.19%	20%	----
		Selenium, dissolved	7782-49-2	E465S	0.00050	mg/L	<0.00050	0.00059	0.00009	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E465S	0.010	mg/L	6.39	6.11	4.41%	20%	----
		Sulfur, dissolved	7704-34-9	E465S	5.0	mg/L	856	778	9.48%	20%	----
		Tellurium, dissolved	13494-80-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E465S	0.000050	mg/L	0.00309	0.00296	4.01%	20%	----
		Vanadium, dissolved	7440-62-2	E465S	0.00050	mg/L	0.00104	0.00098	0.00005	Diff <2x LOR	----
		Yttrium, dissolved	7440-65-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1609571)											
VA24C0615-001	MP05-Source-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1602864)											
VA24C0615-001	MP05-Source-1-24	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Volatile Organic Compounds (QC Lot: 1602864) - continued											
VA24C0615-001	MP05-Source-1-24	Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1602862)											
KS2403233-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----
		VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1602716)						
Conductivity	----	E100S	2	µS/cm	<2.0	----
Physical Tests (QCLot: 1602717)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	1.0	----
Physical Tests (QCLot: 1604441)						
Solids, total suspended [TSS]	----	E160S	2	mg/L	<2.0	----
Physical Tests (QCLot: 1604452)						
Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	----
Physical Tests (QCLot: 1604576)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1605151)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Anions and Nutrients (QCLot: 1602719)						
Bromide	24959-67-9	E235S.Br	5	mg/L	<5.0	----
Anions and Nutrients (QCLot: 1602720)						
Chloride	16887-00-6	E235S.Cl	50	mg/L	<50	----
Anions and Nutrients (QCLot: 1602721)						
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	<0.20	----
Anions and Nutrients (QCLot: 1602722)						
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1602723)						
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1602724)						
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1602746)						
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	<0.0040	----
Anions and Nutrients (QCLot: 1602747)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1602748)						
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1602749)						
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	<0.0040	----
Organic / Inorganic Carbon (QCLot: 1602744)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1602744) - continued						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1602745)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1604909)						
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	<1.0	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	<2.5	----
Total Metals (QCLot: 1604910)						
Aluminum, total	7429-90-5	E466S	0.005	mg/L	<0.0050	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	<0.0010	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	<0.00040	----
Barium, total	7440-39-3	E466S	0.001	mg/L	<0.0010	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	<0.00050	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	<0.00050	----
Boron, total	7440-42-8	E466S	0.3	mg/L	<0.30	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	<0.000020	----
Calcium, total	7440-70-2	E466S	1	mg/L	<1.0	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	<0.00050	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	<0.000050	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	<0.00050	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E466S	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	<0.00010	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	<0.020	----
Magnesium, total	7439-95-4	E466S	1	mg/L	<1.0	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	<0.00020	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	<0.00010	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E466S	1	mg/L	<1.0	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	<0.00050	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	<0.0050	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	<0.00050	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	<0.00010	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	<0.010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1604910) - continued						
Sulfur, total	7704-34-9	E466S	5	mg/L	<5.0	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	<0.00050	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	<0.000050	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	<0.00050	----
Tin, total	7440-31-5	E466S	0.001	mg/L	<0.0010	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	<0.0050	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	<0.0010	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	<0.000050	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	<0.00050	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	<0.00050	----
Total Metals (QCLot: 1608138)						
Mercury, total	7439-97-6	E508S	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1604967)						
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	<1.0	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	<2.5	----
Dissolved Metals (QCLot: 1604968)						
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	<0.0050	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	<0.0010	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	<0.00040	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	<0.0010	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	<0.00050	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	<0.00050	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	<0.30	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	<0.000020	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	<1.0	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	<0.00050	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	<0.000050	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	<0.00050	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	<0.00050	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	<0.00010	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	<0.020	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1604968) - continued						
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	<1.0	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	<0.00010	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	<1.0	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	<0.00050	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	<0.0050	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	<0.00050	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	<0.00010	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	<0.010	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	<5.0	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	<0.00050	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	<0.000050	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	<0.00050	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	<0.0010	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	<0.0050	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	<0.0010	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	<0.000050	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	<0.00050	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	<0.00050	----
Dissolved Metals (QCLot: 1609571)						
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1602864)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1602862)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Hydrocarbons (QCLot: 1602862) - continued						
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1607062)						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
Hydrocarbons (QCLot: 1607064)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1607063)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1602716)									
Conductivity	----	E100S	2	µS/cm	147 µS/cm	97.3	80.0	120	----
Physical Tests (QCLot: 1602717)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	104	85.0	115	----
Physical Tests (QCLot: 1602718)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1604441)									
Solids, total suspended [TSS]	----	E160S	2	mg/L	150 mg/L	102	85.0	115	----
Physical Tests (QCLot: 1604452)									
Solids, total dissolved [TDS]	----	E162S	10	mg/L	1000 mg/L	110	85.0	115	----
Physical Tests (QCLot: 1604576)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Physical Tests (QCLot: 1605151)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Anions and Nutrients (QCLot: 1602719)									
Bromide	24959-67-9	E235S.Br	5	mg/L	0.5 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1602720)									
Chloride	16887-00-6	E235S.Cl	50	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1602721)									
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	1 mg/L	98.0	90.0	110	----
Anions and Nutrients (QCLot: 1602722)									
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1602723)									
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	0.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1602724)									
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1602746)									
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	0.05 mg/L	90.5	80.0	120	----
Anions and Nutrients (QCLot: 1602747)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	90.1	85.0	115	----
Anions and Nutrients (QCLot: 1602748)									
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	4 mg/L	99.4	75.0	125	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1602749)									
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	0.05 mg/L	92.8	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1602744)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	101	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1602745)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	104	80.0	120	----
Total Metals (QCLot: 1604909)									
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	10 mg/L	105	80.0	120	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	50 mg/L	100	80.0	120	----
Total Metals (QCLot: 1604910)									
Aluminum, total	7429-90-5	E466S	0.005	mg/L	2 mg/L	95.1	80.0	120	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	1 mg/L	104	80.0	120	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	1 mg/L	100	80.0	120	----
Barium, total	7440-39-3	E466S	0.001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	0.1 mg/L	98.6	80.0	120	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	1 mg/L	100	80.0	120	----
Boron, total	7440-42-8	E466S	0.3	mg/L	1 mg/L	97.8	80.0	120	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	0.1 mg/L	104	80.0	120	----
Calcium, total	7440-70-2	E466S	1	mg/L	50 mg/L	100	80.0	120	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	0.05 mg/L	101	80.0	120	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	0.25 mg/L	96.0	80.0	120	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	0.25 mg/L	93.5	80.0	120	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	0.25 mg/L	92.7	80.0	120	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	0.25 mg/L	96.9	80.0	120	----
Iron, total	7439-89-6	E466S	0.01	mg/L	1 mg/L	99.4	80.0	120	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	0.5 mg/L	100.0	80.0	120	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	0.25 mg/L	96.1	80.0	120	----
Magnesium, total	7439-95-4	E466S	1	mg/L	50 mg/L	109	80.0	120	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	0.25 mg/L	94.3	80.0	120	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	0.25 mg/L	94.2	80.0	120	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	0.5 mg/L	95.3	80.0	120	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	10 mg/L	100	80.0	120	----
Potassium, total	7440-09-7	E466S	1	mg/L	50 mg/L	98.9	80.0	120	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	0.1 mg/L	100	80.0	120	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	0.1 mg/L	95.6	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1604910) - continued									
Selenium, total	7782-49-2	E466S	0.0005	mg/L	1 mg/L	100	80.0	120	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	0.1 mg/L	95.1	80.0	120	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	0.25 mg/L	93.2	80.0	120	----
Sulfur, total	7704-34-9	E466S	5	mg/L	50 mg/L	104	80.0	120	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	0.1 mg/L	102	80.0	120	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	1 mg/L	98.1	80.0	120	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	0.1 mg/L	101	80.0	120	----
Tin, total	7440-31-5	E466S	0.001	mg/L	0.5 mg/L	101	80.0	120	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	0.25 mg/L	94.3	80.0	120	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	0.1 mg/L	97.5	80.0	120	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	0.5 mg/L	93.7	80.0	120	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	0.1 mg/L	95.8	80.0	120	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	0.5 mg/L	93.8	80.0	120	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	0.1 mg/L	92.3	80.0	120	----
Total Metals (QCLot: 1608138)									
Mercury, total	7439-97-6	E508S	0.000005	mg/L	0 mg/L	97.4	80.0	120	----
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	10 mg/L	99.2	80.0	120	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	50 mg/L	103	80.0	120	----
Dissolved Metals (QCLot: 1604968)									
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	2 mg/L	94.2	80.0	120	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	1 mg/L	104	80.0	120	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	1 mg/L	104	80.0	120	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	0.1 mg/L	101	80.0	120	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	1 mg/L	98.7	80.0	120	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	1 mg/L	97.9	80.0	120	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	0.1 mg/L	105	80.0	120	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	50 mg/L	99.3	80.0	120	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	0.05 mg/L	103	80.0	120	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	0.25 mg/L	94.6	80.0	120	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	0.25 mg/L	93.4	80.0	120	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	0.25 mg/L	91.0	80.0	120	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	0.25 mg/L	97.4	80.0	120	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	1 mg/L	96.8	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1604968) - continued									
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	0.5 mg/L	101	80.0	120	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	0.25 mg/L	98.3	80.0	120	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	50 mg/L	108	80.0	120	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	0.25 mg/L	94.7	80.0	120	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	0.25 mg/L	93.8	80.0	120	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	0.5 mg/L	94.7	80.0	120	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	10 mg/L	105	80.0	120	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	50 mg/L	98.0	80.0	120	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	0.1 mg/L	100	80.0	120	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	0.1 mg/L	95.4	80.0	120	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	1 mg/L	99.1	80.0	120	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	0.1 mg/L	94.1	80.0	120	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	0.25 mg/L	94.1	80.0	120	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	50 mg/L	108	80.0	120	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	0.1 mg/L	103	80.0	120	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	1 mg/L	100	80.0	120	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	0.1 mg/L	103	80.0	120	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	0.5 mg/L	104	80.0	120	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	0.25 mg/L	98.1	80.0	120	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	0.1 mg/L	102	80.0	120	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	0.005 mg/L	101	80.0	120	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	0.5 mg/L	92.9	80.0	120	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	0.1 mg/L	98.9	80.0	120	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	0.5 mg/L	93.1	80.0	120	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	0.1 mg/L	96.3	80.0	120	----
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	0 mg/L	99.2	80.0	120	----
Volatile Organic Compounds (QCLot: 1602864)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	97.4	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	92.2	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	99.0	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	97.0	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	95.1	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	95.8	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	96.6	70.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Hydrocarbons (QCLot: 1602862)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	93.2	70.0	130	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	85.1	70.0	130	----
Hydrocarbons (QCLot: 1607062)									
EPH (C10-C19)	----	E601A	250	µg/L	6490 µg/L	105	70.0	130	----
EPH (C19-C32)	----	E601A	250	µg/L	3360 µg/L	110	70.0	130	----
Hydrocarbons (QCLot: 1607064)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	114	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	107	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	114	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1607063)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	101	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	105	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	109	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	108	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	111	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	128	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	123	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	102	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	96.8	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	98.2	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	111	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	103	60.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1602719)										
VA24C0615-002	MP05-North-1-24	Bromide	24959-67-9	E235S.Br	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1602720)										
VA24C0615-002	MP05-North-1-24	Chloride	16887-00-6	E235S.Cl	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1602721)										
VA24C0615-002	MP05-North-1-24	Fluoride	16984-48-8	E235S.F-L	10.3 mg/L	10 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1602722)										
VA24C0615-002	MP05-North-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	7.49 mg/L	7.5 mg/L	99.9	75.0	125	----
Anions and Nutrients (QCLot: 1602723)										
VA24C0615-002	MP05-North-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	4.75 mg/L	5 mg/L	95.0	75.0	125	----
Anions and Nutrients (QCLot: 1602724)										
VA24C0615-002	MP05-North-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1602746)										
VA24C0615-002	MP05-North-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0773 mg/L	0.1 mg/L	77.3	70.0	130	----
Anions and Nutrients (QCLot: 1602747)										
VA24C0615-002	MP05-North-1-24	Ammonia, total (as N)	7664-41-7	E298	0.101 mg/L	0.1 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1602748)										
VA24C0615-002	MP05-North-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	2.80 mg/L	2.5 mg/L	112	70.0	130	----
Anions and Nutrients (QCLot: 1602749)										
VA24C0615-002	MP05-North-1-24	Phosphorus, total	7723-14-0	E372S	0.0866 mg/L	0.1 mg/L	86.6	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1602744)										
VA24C0839-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.93 mg/L	5 mg/L	98.6	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1602745)										
VA24C0615-002	MP05-North-1-24	Carbon, total organic [TOC]	----	E355-L	4.96 mg/L	5 mg/L	99.2	70.0	130	----
Total Metals (QCLot: 1604909)										
VA24C0615-002	MP05-North-1-24	Silicon, total	7440-21-3	E468S.NaSi	508 mg/L	500 mg/L	102	70.0	130	----
		Sodium, total	7440-23-5	E468S.NaSi	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1604910)										
VA24C0615-002	MP05-North-1-24	Aluminum, total	7429-90-5	E466S	3.61 mg/L	4 mg/L	90.2	70.0	130	----
		Antimony, total	7440-36-0	E466S	0.373 mg/L	0.4 mg/L	93.2	70.0	130	----
		Arsenic, total	7440-38-2	E466S	0.404 mg/L	0.4 mg/L	101	70.0	130	----
		Barium, total	7440-39-3	E466S	0.388 mg/L	0.4 mg/L	97.0	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1604910) - continued										
VA24C0615-002	MP05-North-1-24	Beryllium, total	7440-41-7	E466S	0.744 mg/L	0.8 mg/L	93.0	70.0	130	----
		Bismuth, total	7440-69-9	E466S	0.176 mg/L	0.2 mg/L	87.9	70.0	130	----
		Boron, total	7440-42-8	E466S	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E466S	0.0782 mg/L	0.08 mg/L	97.7	70.0	130	----
		Calcium, total	7440-70-2	E466S	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E466S	0.193 mg/L	0.2 mg/L	96.5	70.0	130	----
		Chromium, total	7440-47-3	E466S	0.765 mg/L	0.8 mg/L	95.6	70.0	130	----
		Cobalt, total	7440-48-4	E466S	0.358 mg/L	0.4 mg/L	89.4	70.0	130	----
		Copper, total	7440-50-8	E466S	0.342 mg/L	0.4 mg/L	85.5	70.0	130	----
		Gallium, total	7440-55-3	E466S	0.0535 mg/L	0.05 mg/L	107	70.0	130	----
		Iron, total	7439-89-6	E466S	38.4 mg/L	40 mg/L	96.0	70.0	130	----
		Lead, total	7439-92-1	E466S	0.370 mg/L	0.4 mg/L	92.6	70.0	130	----
		Lithium, total	7439-93-2	E466S	1.88 mg/L	2 mg/L	94.1	70.0	130	----
		Magnesium, total	7439-95-4	E466S	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E466S	0.378 mg/L	0.4 mg/L	94.6	70.0	130	----
		Molybdenum, total	7439-98-7	E466S	0.393 mg/L	0.4 mg/L	98.3	70.0	130	----
		Nickel, total	7440-02-0	E466S	0.688 mg/L	0.8 mg/L	86.0	70.0	130	----
		Phosphorus, total	7723-14-0	E466S	204 mg/L	200 mg/L	102	70.0	130	----
		Potassium, total	7440-09-7	E466S	ND mg/L	----	ND	70.0	130	----
		Rhenium, total	7440-15-5	E466S	0.0489 mg/L	0.05 mg/L	97.8	70.0	130	----
		Rubidium, total	7440-17-7	E466S	0.397 mg/L	0.4 mg/L	99.3	70.0	130	----
		Selenium, total	7782-49-2	E466S	0.842 mg/L	0.8 mg/L	105	70.0	130	----
		Silver, total	7440-22-4	E466S	0.0726 mg/L	0.08 mg/L	90.7	70.0	130	----
		Strontium, total	7440-24-6	E466S	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E466S	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E466S	0.764 mg/L	0.8 mg/L	95.6	70.0	130	----
		Thallium, total	7440-28-0	E466S	0.0738 mg/L	0.08 mg/L	92.3	70.0	130	----
		Thorium, total	7440-29-1	E466S	0.368 mg/L	0.4 mg/L	92.1	70.0	130	----
		Tin, total	7440-31-5	E466S	0.400 mg/L	0.4 mg/L	100.0	70.0	130	----
		Titanium, total	7440-32-6	E466S	0.760 mg/L	0.8 mg/L	95.0	70.0	130	----
		Tungsten, total	7440-33-7	E466S	0.372 mg/L	0.4 mg/L	92.9	70.0	130	----
		Uranium, total	7440-61-1	E466S	0.0830 mg/L	0.08 mg/L	104	70.0	130	----
		Vanadium, total	7440-62-2	E466S	1.89 mg/L	2 mg/L	94.5	70.0	130	----
		Yttrium, total	7440-65-5	E466S	0.0499 mg/L	0.05 mg/L	99.8	70.0	130	----
		Zinc, total	7440-66-6	E466S	7.07 mg/L	8 mg/L	88.4	70.0	130	----
		Zirconium, total	7440-67-7	E466S	0.710 mg/L	0.8 mg/L	88.8	70.0	130	----
Total Metals (QCLot: 1608138)										
VA24C0615-002	MP05-North-1-24	Mercury, total	7439-97-6	E508S	0.0000922 mg/L	0 mg/L	92.2	70.0	130	----
Dissolved Metals (QCLot: 1604967)										
VA24C0615-002	MP05-North-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	486 mg/L	500 mg/L	97.3	70.0	130	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	ND mg/L	----	ND	70.0	130	----
Dissolved Metals (QCLot: 1604968)										
VA24C0615-002	MP05-North-1-24	Aluminum, dissolved	7429-90-5	E465S	3.65 mg/L	4 mg/L	91.3	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1604968) - continued										
VA24C0615-002	MP05-North-1-24	Antimony, dissolved	7440-36-0	E465S	0.371 mg/L	0.4 mg/L	92.7	70.0	130	----
		Arsenic, dissolved	7440-38-2	E465S	0.413 mg/L	0.4 mg/L	103	70.0	130	----
		Barium, dissolved	7440-39-3	E465S	0.390 mg/L	0.4 mg/L	97.4	70.0	130	----
		Beryllium, dissolved	7440-41-7	E465S	0.776 mg/L	0.8 mg/L	97.0	70.0	130	----
		Bismuth, dissolved	7440-69-9	E465S	0.178 mg/L	0.2 mg/L	89.1	70.0	130	----
		Boron, dissolved	7440-42-8	E465S	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E465S	0.0793 mg/L	0.08 mg/L	99.2	70.0	130	----
		Calcium, dissolved	7440-70-2	E465S	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E465S	0.195 mg/L	0.2 mg/L	97.5	70.0	130	----
		Chromium, dissolved	7440-47-3	E465S	0.784 mg/L	0.8 mg/L	98.0	70.0	130	----
		Cobalt, dissolved	7440-48-4	E465S	0.363 mg/L	0.4 mg/L	90.7	70.0	130	----
		Copper, dissolved	7440-50-8	E465S	0.344 mg/L	0.4 mg/L	86.1	70.0	130	----
		Gallium, dissolved	7440-55-3	E465S	0.0528 mg/L	0.05 mg/L	106	70.0	130	----
		Iron, dissolved	7439-89-6	E465S	38.7 mg/L	40 mg/L	96.7	70.0	130	----
		Lead, dissolved	7439-92-1	E465S	0.372 mg/L	0.4 mg/L	93.0	70.0	130	----
		Lithium, dissolved	7439-93-2	E465S	1.95 mg/L	2 mg/L	97.6	70.0	130	----
		Magnesium, dissolved	7439-95-4	E465S	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E465S	0.385 mg/L	0.4 mg/L	96.3	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E465S	0.406 mg/L	0.4 mg/L	101	70.0	130	----
		Nickel, dissolved	7440-02-0	E465S	0.710 mg/L	0.8 mg/L	88.7	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E465S	210 mg/L	200 mg/L	105	70.0	130	----
		Potassium, dissolved	7440-09-7	E465S	ND mg/L	----	ND	70.0	130	----
		Rhenium, dissolved	7440-15-5	E465S	0.0492 mg/L	0.05 mg/L	98.4	70.0	130	----
		Rubidium, dissolved	7440-17-7	E465S	0.402 mg/L	0.4 mg/L	100	70.0	130	----
		Selenium, dissolved	7782-49-2	E465S	0.870 mg/L	0.8 mg/L	109	70.0	130	----
		Silver, dissolved	7440-22-4	E465S	0.0721 mg/L	0.08 mg/L	90.1	70.0	130	----
		Strontium, dissolved	7440-24-6	E465S	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E465S	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E465S	0.765 mg/L	0.8 mg/L	95.6	70.0	130	----
		Thallium, dissolved	7440-28-0	E465S	0.0740 mg/L	0.08 mg/L	92.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E465S	0.384 mg/L	0.4 mg/L	96.1	70.0	130	----
		Tin, dissolved	7440-31-5	E465S	0.400 mg/L	0.4 mg/L	100.0	70.0	130	----
		Titanium, dissolved	7440-32-6	E465S	0.778 mg/L	0.8 mg/L	97.2	70.0	130	----
		Tungsten, dissolved	7440-33-7	E465S	0.395 mg/L	0.4 mg/L	98.7	70.0	130	----
		Uranium, dissolved	7440-61-1	E465S	0.0867 mg/L	0.08 mg/L	108	70.0	130	----
		Vanadium, dissolved	7440-62-2	E465S	1.90 mg/L	2 mg/L	95.1	70.0	130	----
		Yttrium, dissolved	7440-65-5	E465S	0.0517 mg/L	0.05 mg/L	103	70.0	130	----
		Zinc, dissolved	7440-66-6	E465S	7.16 mg/L	8 mg/L	89.5	70.0	130	----
		Zirconium, dissolved	7440-67-7	E465S	0.729 mg/L	0.8 mg/L	91.1	70.0	130	----
Dissolved Metals (QCLot: 1609571)										
VA24C0615-002	MP05-North-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000973 mg/L	0 mg/L	97.3	70.0	130	----
Volatile Organic Compounds (QCLot: 1602864)										
VA24C0615-001	MP05-Source-1-24	Benzene	71-43-2	E611A	105 µg/L	100 µg/L	105	60.0	140	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1602864) - continued										
VA24C0615-001	MP05-Source-1-24	Ethylbenzene	100-41-4	E611A	103 µg/L	100 µg/L	103	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	108 µg/L	100 µg/L	108	60.0	140	----
		Styrene	100-42-5	E611A	103 µg/L	100 µg/L	103	60.0	140	----
		Toluene	108-88-3	E611A	105 µg/L	100 µg/L	105	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	214 µg/L	200 µg/L	107	60.0	140	----
		Xylene, o-	95-47-6	E611A	107 µg/L	100 µg/L	107	60.0	140	----
Hydrocarbons (QCLot: 1602862)										
KS2403233-002	Anonymous	F1 (C6-C10)	----	E581.VH+F1	4940 µg/L	6310 µg/L	78.2	60.0	140	----
		VHw (C6-C10)	----	E581.VH+F1	4440 µg/L	6310 µg/L	70.4	60.0	140	----

Chain of Custody (COC) / Analytical Request Form

COC Number: 2[redacted]

Page 1 of 1

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

Environme
Vancouver
Work Order
VA24[redacted]

Telephone : +1 604 253 4188

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	~~Elaine Irving~~/Connor Pettem
Phone:	1-604-297-2030/1-604-296-4200
	Company address below will appear on the final report
Street:	840 Howe Street, 10th Floor
City/Province:	Vancouver, BC
Postal Code:	V6Z 2M1
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	
Contact:	

Project Information	
ALS Account # / Quote #:	
Job #:	GOLD100-011
PO / AFE:	CA0026317.6821/86000/03
LSD:	
ALS Lab Work Order # (ALS use only):	0615

Reports / Recipients	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☐ YES ☐ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	~~elaine.irving@wsp.com~~
Email 2	connor.pettem@wsp.com
Email 3	trish.tomliens@wsp.com

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	
Email 2	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	
ALS Contact: Amber Springer	Sampler: TT/MR/DV

Turnaround Time (TAT) Requested
☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.
Additional fees may apply to rush requests on weekends, s
Date and Time Required for all E&P TATs:
For all tests with rush TATs requested, please conta

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	General (alkalinity, turbidity, cond.)	Anions, TOC, DOC, Hard., Salinity	pH, TSS, TDS, Ammonia, TKN	F/P Dissolved Metals	P Total Metals	F/P Dissolved Hg	P Total Hg	P Nutrients (including total phosphorus)	P Petroleum hydrocarbons (MTBE)	P Petroleum hydrocarbons (BTEX,F1)	P Hydrocarbons (LEPH/HEPH)	P PAH, F2-F4	P	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see
	MP05-Source-1-24	12-Aug-24	10:15	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R				
	MP05-North-1-24		~~10:55~~ 9:55	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R				
	MP05-ENE-1-24		10:05	Seawater	6	R	R	R	R	R	R	R	R								
	MP05-WNW-1-24		10:25	Seawater	6	R	R	R	R	R	R	R	R								
	MP06-Source-2-24		10:35	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R				
	MP06-North-2-24		10:45	Seawater	6	R	R	R	R	R	R	R	R								
	MP06-ENE-2-24		11:10	Seawater	6	R	R	R	R	R	R	R	R								
	MP06-WNW-2-24		10:55	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R				
	DUP-C		—	Seawater	6	R	R	R	R	R	R	R	R								
	[redacted]																				

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? ☐ YES ☑ NO	Refer to quote GOLD100-011 [redacted] for all analyses.
Are samples for human consumption/ use? ☐ YES ☑ NO	

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			
Released by:	Date: 13 Aug 2024	Time: 11:00	Received by:	Date:	Time:	Received by:

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☑ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☑ N/A Sample Custody Seals Intact: ☐ YES ☑ N/A

INITIAL COOLER TEMPERATURES °C	FINAL COOLER TEMPERATURES °C

Rcvd jc 15Aug2024 825a m

8/10 °C ice pk

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

By the use of this form the user acknowledges and agrees with the Terms-and-Conditions as specified on the back page of the

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

[1] If samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

Chain of Custody (COC) / Analytical Request Form

COC Number: 21 -

Page 1 of 1

Canada Toll Free: 1-800.668.9878

www.alsglobal.com

Environmental Division Vancouver

Work Order Reference VA24C0615

Telephone : +1 604 253 4188

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	~~Elaine Irving~~/Connor Pettem
Phone:	1-604-297-2030/1-604-296-4200
	Company address below will appear on the final report
Street:	840 Howe Street, 10th Floor
City/Province:	Vancouver, BC
Postal Code:	V6Z 2M1
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax ~~elaine.irving@wsp.com~~

Email 2 connor.pettem@wsp.com

Email 3 trish.tomliens@wsp.com

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax

Email 2

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply

☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum

☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum

☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum

☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum

☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.

Additional fees may apply to rush requests on weekends, s

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, please conta

Project Information	
ALS Account # / Quote #:	
Job #:	GOLD100-011
PO / AFE:	CA0026317.6821/86000/03
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#

Major/Minor Code: Routing Code:

Requisitioner:

Location:

ALS Lab Work Order # (ALS use only): 0615

ALS Contact: Amber Springer Sampler: TT/MR/DV

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	General (alkalinity, turbidity, cond.)	Anions, TOC, DOC, Hard., Salinity	pH, TSS, TDS, Ammonia, TKN	F/P Dissolved Metals	P Total Metals	F/P Dissolved Hg	P Total Hg	P Nutrients (including total phosphorus)	P Petroleum hydrocarbons (MTBE)	P Petroleum hydrocarbons (BTEX,F1)	P Hydrocarbons (LEPH/HEPH)	P PAH, F2-F4	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MP05-Source-1-24	12-Aug-24	10:15	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MP05-North-1-24		~~10:55~~ 9:55	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MP05-ENE-1-24		10:05	Seawater	6	R	R	R	R	R	R	R	R							
	MP05-WNW-1-24		10:25	Seawater	6	R	R	R	R	R	R	R	R							
	MP06-Source-2-24		10:35	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MP06-North-2-24		10:45	Seawater	6	R	R	R	R	R	R	R	R							
	MP06-ENE-2-24		11:10	Seawater	6	R	R	R	R	R	R	R	R							
	MP06-WNW-2-24		10:55	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	DUP-C		—	Seawater	6	R	R	R	R	R	R	R	R							
	[redacted]																			

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☑ NO

Are samples for human consumption/ use? ☐ YES ☑ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

GOLD100-011

Refer to quote [redacted] for all analyses.

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☑ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☑ N/A Sample Custody Seals Intact: ☐ YES ☑ N/A

INITIAL COOLER TEMPERATURES °C	FINAL COOLER TEMPERATURES °C

Rcvd jc 15Aug2024 825a m

8/10 °C ice pk

SHIPMENT RELEASE (client use)

Released by: Patricia Tomliens Date: 13 Aug 2024 Time: 11:00

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by: Date: Time: Received by:

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form.**

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401213**	Page	: 1 of 16
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: +1 867 873 5593
Project	: CA0026317.6821/86000/03	Date Samples Received	: 19-Aug-2024 10:44
PO	:	Date Analysis Commenced	: 22-Aug-2024
C-O-C number	: ----	Issue Date	: 28-Aug-2024 13:42
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 9		
No. of samples analysed	: 9		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Anshim Anshim	Lab Assistant	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Leon Yang	Analyst	Inorganics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	Metals, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
psu	practical salinity units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

Sub-Matrix: Seawater (Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	15-Aug-2024 08:41	15-Aug-2024 08:55	15-Aug-2024 08:51	15-Aug-2024 08:35	15-Aug-2024 07:46
						YL2401213-001	YL2401213-002	YL2401213-003	YL2401213-004	YL2401213-005
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		101	98.3	98.2	98.5	90.0
Conductivity	----	E100S/VA	2.0	µS/cm		34300	30900	30900	35700	16600
pH	----	E108/VA	0.10	pH units		8.05	8.06	8.06	8.04	8.09
Salinity	----	EC100S/VA	1.0	psu		22.3	19.9	19.9	23.3	10.1
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L		26900	24100	21900	27600	11600
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L		3.2	3.5	<2.0	3.4	<2.0
Turbidity	----	E121/VA	0.10	NTU		0.27	0.48	0.41	0.76	0.42
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		4210	3830	3860	4520	1970
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L		4470	3750	3770	4250	1900
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	0.0052
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L		40.4	36.0	36.1	42.7	17.9
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L		12400	11000	11000	12900	5570
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L		0.55	0.74	0.54	0.60	0.31
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L		0.075	0.084	0.102	0.090	0.080
Nitrate (as N)	14797-55-8	E235S.NO3-T/VA	0.010	mg/L		0.015	<0.010	<0.010	<0.010	<0.010
Nitrite (as N)	14797-65-0	E235S.NO2-L/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L		0.0182	0.0154	0.0155	0.0176	0.0086
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L		0.0170	0.0151	0.0147	0.0168	0.0103
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/VA	3.0	mg/L		1700	1510	1510	1770	768
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L		0.92	0.94	1.15	0.92	1.08
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		0.92	0.89	0.92	0.92	1.02
Total Metals										
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L		0.0061	0.0087	0.0091	0.0136	0.0069
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L		0.00262	0.00263	0.00239	0.00296	0.00162

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	15-Aug-2024 08:41	15-Aug-2024 08:55	15-Aug-2024 08:51	15-Aug-2024 08:35	15-Aug-2024 07:46
						YL2401213-001	YL2401213-002	YL2401213-003	YL2401213-004	YL2401213-005
						Result	Result	Result	Result	Result
Total Metals										
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L		0.0073	0.0070	0.0071	0.0082	0.0053
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total	7440-42-8	E466S/VA	0.30	mg/L		2.83	2.60	2.54	2.96	1.30
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L		0.000024	<0.000020	<0.000020	0.000027	<0.000020
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L		294	257	258	295	138
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	0.000056	<0.000050
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	0.00063	0.00070	0.00078
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, total	7439-89-6	E466S/VA	0.010	mg/L		<0.010	0.013	0.012	0.024	<0.010
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L		0.126	0.112	0.110	0.130	0.054
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L		908	755	759	853	377
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L		0.00071	0.00077	0.00077	0.00118	0.00054
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L		0.00678	0.00567	0.00583	0.00712	0.00294
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L		261	228	230	270	114
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L		0.0708	0.0606	0.0596	0.0719	0.0308
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, total	7440-21-3	E468S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, total	7440-23-5	E468S.NaSi/VA	2.5	mg/L		6730	6300	6030	6950	2990
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L		4.76	4.03	3.97	4.86	2.04

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	15-Aug-2024 08:41	15-Aug-2024 08:55	15-Aug-2024 08:51	15-Aug-2024 08:35	15-Aug-2024 07:46
						YL2401213-001	YL2401213-002	YL2401213-003	YL2401213-004	YL2401213-005
						Result	Result	Result	Result	Result
Total Metals										
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L		625	540	528	611	262
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L		0.00243	0.00216	0.00220	0.00227	0.00159
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L		0.00080	0.00069	0.00071	0.00082	<0.00050
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L		0.00285	0.00262	0.00242	0.00304	0.00130
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L		0.0070	0.0068	0.0070	0.0084	0.0051
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L		2.88	2.58	2.69	3.19	1.43
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L		0.000027	0.000022	0.000022	0.000023	<0.000020
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L		279	255	255	298	134
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L		<0.000050	0.000052	<0.000050	0.000058	<0.000050
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L		0.119	0.106	0.106	0.128	0.054

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	15-Aug-2024 08:41	15-Aug-2024 08:55	15-Aug-2024 08:51	15-Aug-2024 08:35	15-Aug-2024 07:46
						YL2401213-001	YL2401213-002	YL2401213-003	YL2401213-004	YL2401213-005
						Result	Result	Result	Result	Result
Dissolved Metals										
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L		853	775	782	916	397
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L		0.00053	0.00053	0.00055	0.00075	0.00037
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L		0.00606	0.00549	0.00541	0.00653	0.00282
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L		255	228	229	270	112
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L		0.0625	0.0562	0.0556	0.0668	0.0277
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, dissolved	7440-21-3	E469S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, dissolved	7440-23-5	E469S.NaSi/VA	2.5	mg/L		6090	5530	5540	6620	2710
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L		4.23	3.76	3.74	4.52	1.87
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L		693	606	590	712	298
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L		0.00242	0.00224	0.00218	0.00223	0.00158
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L		0.00082	0.00071	0.00069	0.00086	<0.00050
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L		0.0012	<0.0010	<0.0010	0.0019	<0.0010
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421S/VA	-	-		Field	Field	Field	Field	Field

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	15-Aug-2024 08:41	15-Aug-2024 08:55	15-Aug-2024 08:51	15-Aug-2024 08:35	15-Aug-2024 07:46
						YL2401213-001	YL2401213-002	YL2401213-003	YL2401213-004	YL2401213-005
						Result	Result	Result	Result	Result
Dissolved Metals										
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Styrene	100-42-5	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Toluene	108-88-3	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		<0.40	<0.40	----	----	<0.40
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		<0.30	<0.30	----	----	<0.30
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L		<250	<250	----	----	<250
EPH (C19-C32)	----	E601A/VA	250	µg/L		<250	<250	----	----	<250
F2 (C10-C16)	----	E601/VA	100	µg/L		<100	<100	----	----	<100
F3 (C16-C34)	----	E601/VA	250	µg/L		<250	<250	----	----	<250
F4 (C34-C50)	----	E601/VA	250	µg/L		<250	<250	----	----	<250
TEH (C10-C50)	n/a	E601/VA	400	µg/L		<400	<400	----	----	<400
TEH (C16-C50)	----	E601/VA	400	µg/L		<400	<400	----	----	<400
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	----	----	<100
F1-BTEX	----	EC580/VA	100	µg/L		<100	<100	----	----	<100
HEPHw	----	EC600A/VA	250	µg/L		<250	<250	----	----	<250
LEPHw	----	EC600A/VA	250	µg/L		<250	<250	----	----	<250
VPHw	----	EC580A/VA	100	µg/L		<100	<100	----	----	<100
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	----	----	<100
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		82.2	85.7	----	----	84.9
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		87.1	85.5	----	----	86.0
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		110	108	----	----	118

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	15-Aug-2024 08:41	15-Aug-2024 08:55	15-Aug-2024 08:51	15-Aug-2024 08:35	15-Aug-2024 07:46
						YL2401213-001	YL2401213-002	YL2401213-003	YL2401213-004	YL2401213-005
						Result	Result	Result	Result	Result
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		84.8	83.4	----	----	84.8
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		101	101	----	----	100
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Acridine	260-94-6	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Anthracene	120-12-7	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		<0.0050	<0.0050	----	----	<0.0050
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		<0.015	<0.015	----	----	<0.015
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Chrysene	218-01-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		<0.0050	<0.0050	----	----	<0.0050
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Fluorene	86-73-7	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Naphthalene	91-20-3	E641A/VA	0.050	µg/L		<0.050	<0.050	----	----	<0.050
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L		<0.020	<0.020	----	----	<0.020
Pyrene	129-00-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Quinoline	91-22-5	E641A/VA	0.050	µg/L		<0.050	<0.050	----	----	<0.050
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%		79.0	83.7	----	----	85.4
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%		87.9	92.3	----	----	94.8
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%		93.0	96.1	----	----	97.8

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	DUP-D	----
					Client sampling date / time	15-Aug-2024 08:18	15-Aug-2024 07:55	15-Aug-2024 08:26	15-Aug-2024 00:00	----
						YL2401213-006	YL2401213-007	YL2401213-008	YL2401213-009	--------
						Result	Result	Result	Result	----
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		109	108	108	108	----
Conductivity	----	E100S/VA	2.0	µS/cm		46200	45800	45700	45100	----
pH	----	E108/VA	0.10	pH units		8.03	8.04	8.04	8.04	----
Salinity	----	EC100S/VA	1.0	psu		31.0	30.8	30.7	30.2	----
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L		36800	36600	36500	37000	----
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L		4.7	<2.0	5.0	<2.0	----
Turbidity	----	E121/VA	0.10	NTU		0.25	0.20	0.18	0.20	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		5880	5780	5870	5830	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L		5480	5180	5140	5100	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		<0.0050	0.0094	<0.0050	0.0059	----
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L		56.8	56.0	56.0	56.5	----
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L		17100	16800	16900	16900	----
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L		0.91	1.01	0.99	1.00	----
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L		0.103	0.100	0.096	0.108	----
Nitrate (as N)	14797-55-8	E235S.NO3-T/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	----
Nitrite (as N)	14797-65-0	E235S.NO2-L/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	----
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L		0.0250	0.0253	0.0251	0.0264	----
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L		0.0247	0.0247	0.0245	0.0248	----
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/VA	3.0	mg/L		2360	2320	2330	2320	----
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L		1.01	0.88	1.00	0.85	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		0.95	1.08	0.86	1.03	----
Total Metals										
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L		0.0056	0.0122	<0.0050	0.0099	----
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L		0.00383	0.00357	0.00357	0.00355	----
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L		0.0082	0.0084	0.0083	0.0083	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	DUP-D	----
					Client sampling date / time	15-Aug-2024 08:18	15-Aug-2024 07:55	15-Aug-2024 08:26	15-Aug-2024 00:00	----
						YL2401213-006	YL2401213-007	YL2401213-008	YL2401213-009	--------
						Result	Result	Result	Result	----
Total Metals										
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Boron, total	7440-42-8	E466S/VA	0.30	mg/L		3.77	3.79	3.70	3.73	----
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L		0.000036	0.000041	0.000030	0.000030	----
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L		382	375	375	377	----
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L		0.000060	0.000053	<0.000050	<0.000050	----
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L		0.00057	0.00252	<0.00050	0.00272	----
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Iron, total	7439-89-6	E466S/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	----
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	----
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L		0.172	0.173	0.169	0.168	----
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L		1100	1030	1020	1010	----
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L		0.00054	0.00064	0.00048	0.00062	----
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L		0.00916	0.00894	0.00871	0.00905	----
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	----
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L		351	340	341	343	----
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L		0.0936	0.0934	0.0924	0.0931	----
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Silicon, total	7440-21-3	E468S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	----
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	----
Sodium, total	7440-23-5	E468S.NaSi/VA	2.5	mg/L		9210	9260	9390	9320	----
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L		6.31	6.29	6.06	6.21	----
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L		781	773	743	742	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	DUP-D	----
					Client sampling date / time	15-Aug-2024 08:18	15-Aug-2024 07:55	15-Aug-2024 08:26	15-Aug-2024 00:00	----
						YL2401213-006	YL2401213-007	YL2401213-008	YL2401213-009	--------
						Result	Result	Result	Result	----
Total Metals										
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	----
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	----
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L		0.00264	0.00269	0.00269	0.00270	----
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L		0.00106	0.00106	0.00100	0.00105	----
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	----
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L		<0.0050	0.0058	<0.0050	0.0056	----
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L		0.00352	0.00344	0.00374	0.00336	----
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L		0.0083	0.0082	0.0078	0.0083	----
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L		4.13	4.14	4.16	4.25	----
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L		0.000026	0.000034	0.000025	0.000031	----
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L		391	386	389	389	----
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L		0.000073	0.000070	0.000070	0.000066	----
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L		<0.00050	0.00056	<0.00050	<0.00050	----
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	----
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	----
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L		0.168	0.170	0.167	0.171	----
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L		1190	1170	1190	1180	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	DUP-D	----
					Client sampling date / time	15-Aug-2024 08:18	15-Aug-2024 07:55	15-Aug-2024 08:26	15-Aug-2024 00:00	----
						YL2401213-006	YL2401213-007	YL2401213-008	YL2401213-009	--------
						Result	Result	Result	Result	----
Dissolved Metals										
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L		0.00043	0.00043	0.00042	0.00041	----
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L		0.00902	0.00866	0.00855	0.00848	----
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	----
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L		366	361	365	365	----
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L		0.0919	0.0893	0.0872	0.0868	----
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Silicon, dissolved	7440-21-3	E469S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	----
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	----
Sodium, dissolved	7440-23-5	E469S.NaSi/VA	2.5	mg/L		8590	8570	8380	8720	----
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L		6.18	5.96	5.89	5.91	----
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L		921	916	909	913	----
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	----
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	----
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L		0.00273	0.00275	0.00271	0.00275	----
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L		0.00116	0.00114	0.00108	0.00107	----
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L		0.0013	0.0027	0.0020	0.0023	----
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	Field	Field	Field	----
Dissolved metals filtration location	----	EP421S/VA	-	-		Field	Field	Field	Field	----
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	DUP-D	----
					Client sampling date / time	15-Aug-2024 08:18	15-Aug-2024 07:55	15-Aug-2024 08:26	15-Aug-2024 00:00	----
						YL2401213-006	YL2401213-007	YL2401213-008	YL2401213-009	--------
						Result	Result	Result	Result	----
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	----
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	----
Styrene	100-42-5	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	----
Toluene	108-88-3	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	----
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		----	<0.40	----	<0.40	----
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		----	<0.30	----	<0.30	----
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	----
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L		----	<250	----	<250	----
EPH (C19-C32)	----	E601A/VA	250	µg/L		----	<250	----	<250	----
F2 (C10-C16)	----	E601/VA	100	µg/L		----	<100	----	<100	----
F3 (C16-C34)	----	E601/VA	250	µg/L		----	<250	----	<250	----
F4 (C34-C50)	----	E601/VA	250	µg/L		----	<250	----	<250	----
TEH (C10-C50)	n/a	E601/VA	400	µg/L		----	<400	----	<400	----
TEH (C16-C50)	----	E601/VA	400	µg/L		----	<400	----	<400	----
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L		----	<100	----	<100	----
F1-BTEX	----	EC580/VA	100	µg/L		----	<100	----	<100	----
HEPHw	----	EC600A/VA	250	µg/L		----	<250	----	<250	----
LEPHw	----	EC600A/VA	250	µg/L		----	<250	----	<250	----
VPHw	----	EC580A/VA	100	µg/L		----	<100	----	<100	----
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L		----	<100	----	<100	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		----	93.6	----	88.7	----
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		----	93.4	----	89.4	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		----	110	----	110	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		----	84.5	----	83.5	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	DUP-D	----
					Client sampling date / time	15-Aug-2024 08:18	15-Aug-2024 07:55	15-Aug-2024 08:26	15-Aug-2024 00:00	----
						YL2401213-006	YL2401213-007	YL2401213-008	YL2401213-009	--------
						Result	Result	Result	Result	----
Volatile Organic Compounds Surrogates										
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		----	100	----	101	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Acridine	260-94-6	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Anthracene	120-12-7	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		----	<0.0050	----	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		----	<0.015	----	<0.015	----
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Chrysene	218-01-9	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		----	<0.0050	----	<0.0050	----
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Fluorene	86-73-7	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Naphthalene	91-20-3	E641A/VA	0.050	µg/L		----	<0.050	----	<0.050	----
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L		----	<0.020	----	<0.020	----
Pyrene	129-00-0	E641A/VA	0.010	µg/L		----	<0.010	----	<0.010	----
Quinoline	91-22-5	E641A/VA	0.050	µg/L		----	<0.050	----	<0.050	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%		----	86.9	----	85.2	----
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%		----	96.0	----	96.1	----
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%		----	99.4	----	96.8	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401213**	Page	: 1 of 38
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: +1 867 873 5593
Project	: CA0026317.6821/86000/03	Date Samples Received	: 19-Aug-2024 10:44
PO	:	Issue Date	: 28-Aug-2024 19:56
C-O-C number	: ----		
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 9		
No. of samples analysed	: 9		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) DUP-D	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-North-2-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-Source-2-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-WNW-2-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
DUP-D	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-ENE-1-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-North-1-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-Source-1-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-WNW-1-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP06-ENE-2-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP06-North-2-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE DUP-D	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-North-1-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-Source-1-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-WNW-1-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-ENE-2-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-North-2-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Seawater by IC										
HDPE										
MP06-Source-2-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE										
MP06-WNW-2-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
DUP-D	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP05-ENE-1-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP05-North-1-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP05-Source-1-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP05-WNW-1-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP06-ENE-2-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP06-North-2-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP06-Source-2-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP06-WNW-2-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
DUP-D	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP05-ENE-1-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP05-North-1-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP05-Source-1-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP05-WNW-1-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP06-ENE-2-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP06-North-2-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP06-Source-2-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP06-WNW-2-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
DUP-D	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP05-ENE-1-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP05-North-1-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP05-Source-1-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP05-WNW-1-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP06-ENE-2-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP06-North-2-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR

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			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP06-Source-2-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP06-WNW-2-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	× EHTR	25-Aug-2024	3 days	10 days	× EHTR
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE										
DUP-D	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE										
MP05-ENE-1-24	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE										
MP05-North-1-24	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE										
MP05-Source-1-24	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE										
MP05-WNW-1-24	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE										
MP06-ENE-2-24	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE										
MP06-North-2-24	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓

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			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE										
MP06-Source-2-24	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE										
MP06-WNW-2-24	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved)										
DUP-D	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved)										
MP05-ENE-1-24	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved)										
MP05-North-1-24	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved)										
MP05-Source-1-24	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved)										
MP05-WNW-1-24	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved)										
MP06-ENE-2-24	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved)										
MP06-North-2-24	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	26-Aug-2024	28 days	4 days	✓

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Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved)										
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Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved)										
MP06-WNW-2-24	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
DUP-D	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-ENE-1-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-North-1-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-Source-1-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-WNW-1-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-ENE-2-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-North-2-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-Source-2-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-WNW-2-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
DUP-D	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MP05-ENE-1-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MP05-North-1-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MP05-Source-1-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MP05-WNW-1-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MP06-ENE-2-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MP06-North-2-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MP06-Source-2-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MP06-WNW-2-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
DUP-D	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP05-ENE-1-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP05-North-1-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP05-Source-1-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP05-WNW-1-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-ENE-2-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-North-2-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-Source-2-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-WNW-2-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
DUP-D	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-ENE-1-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-North-1-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-Source-1-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-WNW-1-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP06-ENE-2-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP06-North-2-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-Source-2-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-WNW-2-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) DUP-D	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-ENE-1-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-North-1-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-Source-1-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-WNW-1-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-ENE-2-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-North-2-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid)										
MP06-Source-2-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid)										
MP06-WNW-2-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
DUP-D	E601A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	24-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP05-North-1-24	E601A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	24-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP05-Source-1-24	E601A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	24-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-ENE-2-24	E601A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	24-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-Source-2-24	E601A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	24-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
DUP-D	E601	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP05-North-1-24	E601	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP05-Source-1-24	E601	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-ENE-2-24	E601	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-Source-2-24	E601	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
DUP-D	E581.VH+F1	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP05-North-1-24	E581.VH+F1	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP05-Source-1-24	E581.VH+F1	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP06-ENE-2-24	E581.VH+F1	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP06-Source-2-24	E581.VH+F1	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
DUP-D	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	22-Aug-2024	28 days	0 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP05-ENE-1-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	22-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP05-North-1-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	22-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP05-Source-1-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	22-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP05-WNW-1-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	22-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP06-ENE-2-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	22-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP06-North-2-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	22-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP06-Source-2-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	22-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP06-WNW-2-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	× EHTR	22-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
DUP-D	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-North-1-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-North-2-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-Source-2-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE DUP-D	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓

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			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-ENE-1-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-North-1-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-Source-1-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-WNW-1-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-ENE-2-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-North-2-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-Source-2-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-WNW-2-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE DUP-D	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Seawater										
HDPE MP05-ENE-1-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-North-1-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-Source-1-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-WNW-1-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-ENE-2-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-North-2-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-Source-2-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-WNW-2-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : pH by Meter										
HDPE MP05-ENE-1-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	222 hrs	× EHTR-FM	25-Aug-2024	0.25 hrs	246 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE MP05-North-1-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	222 hrs	× EHTR-FM	25-Aug-2024	0.25 hrs	246 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE DUP-D	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	222 hrs	× EHTR-FM	25-Aug-2024	0.25 hrs	247 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-Source-1-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	222 hrs	× EHTR-FM	25-Aug-2024	0.25 hrs	247 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-WNW-1-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	222 hrs	× EHTR-FM	25-Aug-2024	0.25 hrs	247 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-ENE-2-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	223 hrs	× EHTR-FM	25-Aug-2024	0.25 hrs	247 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-North-2-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	223 hrs	× EHTR-FM	25-Aug-2024	0.25 hrs	247 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-Source-2-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	223 hrs	× EHTR-FM	25-Aug-2024	0.25 hrs	247 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-WNW-2-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	223 hrs	× EHTR-FM	25-Aug-2024	0.25 hrs	247 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE DUP-D	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE										
MP05-ENE-1-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE										
MP05-North-1-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE										
MP05-Source-1-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE										
MP05-WNW-1-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE										
MP06-ENE-2-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE										
MP06-North-2-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE										
MP06-Source-2-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE										
MP06-WNW-2-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE										
DUP-D	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE DUP-D	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	× EHTR

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-ENE-1-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-North-1-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-Source-1-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-WNW-1-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-ENE-2-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-North-2-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-Source-2-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-WNW-2-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	× EHTR
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) DUP-D	E641A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E641A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E641A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E641A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E641A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) DUP-D	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-ENE-1-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-North-1-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-Source-1-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-WNW-1-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-ENE-2-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-North-2-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-Source-2-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-WNW-2-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) DUP-D	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-Source-1-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-North-2-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) DUP-D	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-Source-1-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-North-2-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) DUP-D	E611A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-North-1-24	E611A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-Source-1-24	E611A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E611A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-Source-2-24	E611A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1614872	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1611607	1	20	5.0	5.0	✓
Bromide in Seawater by IC	E235S.Br	1614874	1	16	6.2	5.0	✓
BTEX by Headspace GC-MS	E611A	1612153	1	20	5.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1614875	1	16	6.2	5.0	✓
Conductivity in Seawater	E100S	1614871	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1618990	1	9	11.1	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1612358	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1611604	1	20	5.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1612354	1	20	5.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1614880	1	9	11.1	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1614881	1	9	11.1	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1614882	1	9	11.1	5.0	✓
pH by Meter	E108	1614873	1	16	6.2	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1614883	1	9	11.1	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1611515	1	9	11.1	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1611606	1	9	11.1	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1611608	1	20	5.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1616186	2	28	7.1	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1612250	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1611605	1	20	5.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1611609	1	20	5.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1612254	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1611569	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1612154	1	19	5.2	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1614872	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1611607	1	20	5.0	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1611882	1	17	5.8	5.0	✓
Bromide in Seawater by IC	E235S.Br	1614874	1	16	6.2	5.0	✓
BTEX by Headspace GC-MS	E611A	1612153	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1611884	1	5	20.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1614875	1	16	6.2	5.0	✓
Conductivity in Seawater	E100S	1614871	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1618990	1	9	11.1	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1612358	1	20	5.0	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1611604	1	20	5.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1612354	1	20	5.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1614880	1	9	11.1	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1614881	1	9	11.1	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1614882	1	9	11.1	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1611881	1	19	5.2	5.0	✓
pH by Meter	E108	1614873	1	16	6.2	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1614883	1	9	11.1	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1611515	1	9	11.1	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1611606	1	9	11.1	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1611608	1	20	5.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1616186	2	28	7.1	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1612250	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1611605	1	20	5.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1611609	1	20	5.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1612254	1	20	5.0	5.0	✓
TSS by Gravimetry (Seawater)	E160S	1611508	1	9	11.1	5.0	✓
Turbidity by Nephelometry	E121	1611569	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1612154	1	19	5.2	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1614872	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1611607	1	20	5.0	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1611882	1	17	5.8	5.0	✓
Bromide in Seawater by IC	E235S.Br	1614874	1	16	6.2	5.0	✓
BTEX by Headspace GC-MS	E611A	1612153	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1611884	1	5	20.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1614875	1	16	6.2	5.0	✓
Conductivity in Seawater	E100S	1614871	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1618990	1	9	11.1	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1612358	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1611604	1	20	5.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1612354	1	20	5.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1614880	1	9	11.1	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1614881	1	9	11.1	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1614882	1	9	11.1	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1611881	1	19	5.2	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1614883	1	9	11.1	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1611515	1	9	11.1	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1611606	1	9	11.1	5.0	✓

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1611608	1	20	5.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1616186	2	28	7.1	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1612250	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1611605	1	20	5.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1611609	1	20	5.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1612254	1	20	5.0	5.0	✓
TSS by Gravimetry (Seawater)	E160S	1611508	1	9	11.1	5.0	✓
Turbidity by Nephelometry	E121	1611569	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1612154	1	19	5.2	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1611607	1	20	5.0	5.0	✓
Bromide in Seawater by IC	E235S.Br	1614874	1	16	6.2	5.0	✓
BTEX by Headspace GC-MS	E611A	1612153	1	20	5.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1614875	1	16	6.2	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1618990	1	9	11.1	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1612358	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1611604	1	20	5.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1612354	1	20	5.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1614880	1	9	11.1	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1614881	1	9	11.1	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1614882	1	9	11.1	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1614883	1	9	11.1	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1611606	1	9	11.1	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1611608	1	20	5.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1616186	2	28	7.1	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1612250	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1611605	1	20	5.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1611609	1	20	5.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1612254	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1612154	1	19	5.2	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Seawater	E100S ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TSS by Gravimetry (Seawater)	E160S ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids.
TDS by Gravimetry (Seawater)	E162S ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Seawater by IC	E235S.Br ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Seawater by IC	E235S.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Seawater by IC (Low Level)	E235S.F-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	TKN in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Dissolved Phosphorus is determined colourimetrically using a discrete analyzer after filtration through a 0.45 micron filter followed by heated persulfate digestion of the sample.
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Triple Quadrupole ICPMS.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Metals in Seawater by Triple Quad ICPMS	E466S ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Triple Quadrupole ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
Total Mercury in Seawater by CVAAS	E508S ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Seawater samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Mercury in Seawater by CVAAS	E509S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Seawater samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Water	BC MOE Lab Manual	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
BTEX by Headspace GC-MS	E611A ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Salinity in Water (calculation)	EC100S ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
F1-BTEX	EC580 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for TKN in Seawater	EP318S ALS Environmental - Vancouver	Water	APHA 4500-Norg D (mod)	Samples are digested at high temperature using Sulfuric Acid with Copper catalyst, which converts organic nitrogen sources to Ammonia, which is then quantified by the analytical method as TKN. This method is unsuitable for samples containing high levels of nitrate. If nitrate exceeds TKN concentration by ten times or more, results may be biased low.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Digestion for Dissolved Phosphorus in water	EP375 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are filtered through a 0.45 micron membrane filter and then heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Metals Seawater Filtration	EP421S ALS Environmental - Vancouver	Water	PUGET SOUND PROTOCOLS, EPA 6020A	This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by Collision/Reaction Cell ICPMS.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: **YL2401213**	Page	: 1 of 21
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: +1 867 873 5593
Project	: CA0026317.6821/86000/03	Date Samples Received	: 19-Aug-2024 10:44
PO	:	Date Analysis Commenced	: 22-Aug-2024
C-O-C number	: ----	Issue Date	: 28-Aug-2024 13:50
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 9		
No. of samples analysed	: 9		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Anshim Anshim	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Leon Yang	Analyst	Vancouver Inorganics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Vancouver Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	Vancouver Metals, Burnaby, British Columbia

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1611515)											
YL2401213-001	MP05-Source-1-24	Solids, total dissolved [TDS]	----	E162S	400	mg/L	26900	27400	1.91%	20%	----
Physical Tests (QC Lot: 1611569)											
VA24C1270-002	Anonymous	Turbidity	----	E121	0.10	NTU	0.34	0.32	0.01	Diff <2x LOR	----
Physical Tests (QC Lot: 1614871)											
VA24C1605-002	Anonymous	Conductivity	----	E100S	2.0	µS/cm	2750	2760	0.363%	20%	----
Physical Tests (QC Lot: 1614872)											
VA24C1605-002	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	10.7	10.0	6.83%	20%	----
Physical Tests (QC Lot: 1614873)											
VA24C1605-002	Anonymous	pH	----	E108	0.10	pH units	7.23	7.23	0.00%	4%	----
Anions and Nutrients (QC Lot: 1611606)											
YL2401213-001	MP05-Source-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0020	mg/L	0.0170	0.0170	0.00006	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1611607)											
VA24C0839-012	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0054	0.0057	0.0003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1611608)											
VA24C0839-012	Anonymous	Kjeldahl nitrogen, total [TKN]	----	E318S	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1611609)											
VA24C0839-012	Anonymous	Phosphorus, total	7723-14-0	E372S	0.0040	mg/L	0.0626	0.0630	0.573%	20%	----
Anions and Nutrients (QC Lot: 1614874)											
VA24C1605-002	Anonymous	Bromide	24959-67-9	E235S.Br	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1614875)											
VA24C1605-002	Anonymous	Chloride	16887-00-6	E235S.Cl	50	mg/L	815	809	0.709%	20%	----
Anions and Nutrients (QC Lot: 1614880)											
YL2401213-001	MP05-Source-1-24	Fluoride	16984-48-8	E235S.F-L	0.20	mg/L	0.55	0.78	0.23	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1614881)											
YL2401213-001	MP05-Source-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	0.010	mg/L	0.015	0.015	0.0004	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1614882)											
YL2401213-001	MP05-Source-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1614883)											
YL2401213-001	MP05-Source-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3.0	mg/L	1700	1700	0.0484%	20%	----
Organic / Inorganic Carbon (QC Lot: 1611604)											

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Organic / Inorganic Carbon (QC Lot: 1611604) - continued											
VA24C0839-012	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.44	1.65	0.21	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1611605)											
VA24C0839-012	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	0.84	0.79	0.05	Diff <2x LOR	----
Total Metals (QC Lot: 1612250)											
VA24C1337-001	Anonymous	Aluminum, total	7429-90-5	E466S	0.0050	mg/L	0.0156	0.0145	0.0011	Diff <2x LOR	----
		Antimony, total	7440-36-0	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E466S	0.00040	mg/L	0.00340	0.00356	0.00016	Diff <2x LOR	----
		Barium, total	7440-39-3	E466S	0.0010	mg/L	0.0105	0.0110	4.61%	20%	----
		Beryllium, total	7440-41-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E466S	0.30	mg/L	3.48	3.82	9.26%	20%	----
		Cadmium, total	7440-43-9	E466S	0.000020	mg/L	0.000078	0.000091	0.000013	Diff <2x LOR	----
		Calcium, total	7440-70-2	E466S	1.0	mg/L	355	370	3.97%	20%	----
		Cesium, total	7440-46-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E466S	0.000050	mg/L	0.000064	0.000069	0.000004	Diff <2x LOR	----
		Copper, total	7440-50-8	E466S	0.00050	mg/L	0.00051	<0.00050	0.00001	Diff <2x LOR	----
		Gallium, total	7440-55-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E466S	0.010	mg/L	0.017	0.017	0.0006	Diff <2x LOR	----
		Lead, total	7439-92-1	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E466S	0.020	mg/L	0.158	0.169	0.011	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E466S	1.0	mg/L	1130	1090	3.51%	20%	----
		Manganese, total	7439-96-5	E466S	0.00020	mg/L	0.00334	0.00339	1.32%	20%	----
		Molybdenum, total	7439-98-7	E466S	0.00010	mg/L	0.00890	0.00907	1.94%	20%	----
		Nickel, total	7440-02-0	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E466S	0.050	mg/L	0.092	0.091	0.0007	Diff <2x LOR	----
		Potassium, total	7440-09-7	E466S	1.0	mg/L	331	342	3.22%	20%	----
		Rhenium, total	7440-15-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E466S	0.0050	mg/L	0.0902	0.0911	0.944%	20%	----
		Selenium, total	7782-49-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, total	7440-22-4	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, total	7440-24-6	E466S	0.010	mg/L	6.16	6.21	0.902%	20%	----
		Sulfur, total	7704-34-9	E466S	5.0	mg/L	774	784	1.32%	20%	----
		Tellurium, total	13494-80-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1612250) - continued											
VA24C1337-001	Anonymous	Thallium, total	7440-28-0	E466S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E466S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E466S	0.000050	mg/L	0.00264	0.00270	2.28%	20%	----
		Vanadium, total	7440-62-2	E466S	0.00050	mg/L	0.00118	0.00121	0.00003	Diff <2x LOR	----
		Yttrium, total	7440-65-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E466S	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1612254)											
VA24C1337-001	Anonymous	Silicon, total	7440-21-3	E468S.NaSi	1.0	mg/L	1.7	1.6	0.2	Diff <2x LOR	----
		Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	8940	9180	2.62%	20%	----
Total Metals (QC Lot: 1616186)											
VA24C1337-001	Anonymous	Mercury, total	7439-97-6	E508S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1616188)											
YL2401213-002	MP05-North-1-24	Mercury, total	7439-97-6	E508S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1612354)											
VA24C1337-001	Anonymous	Silicon, dissolved	7440-21-3	E469S.NaSi	1.0	mg/L	1.6	1.3	0.3	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	8500	8580	0.900%	20%	----
Dissolved Metals (QC Lot: 1612358)											
VA24C1337-001	Anonymous	Aluminum, dissolved	7429-90-5	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E465S	0.00040	mg/L	0.00338	0.00359	0.00021	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E465S	0.0010	mg/L	0.0109	0.0109	0.377%	20%	----
		Beryllium, dissolved	7440-41-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E465S	0.30	mg/L	3.72	4.10	9.49%	20%	----
		Cadmium, dissolved	7440-43-9	E465S	0.000020	mg/L	0.000089	0.000066	0.000023	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E465S	1.0	mg/L	377	390	3.36%	20%	----
		Cesium, dissolved	7440-46-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E465S	0.000050	mg/L	0.000081	0.000072	0.000009	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Dissolved Metals (QC Lot: 1612358) - continued											
VA24C1337-001	Anonymous	Gallium, dissolved	7440-55-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E465S	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E465S	0.020	mg/L	0.152	0.163	0.010	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E465S	1.0	mg/L	1140	1180	2.57%	20%	----
		Manganese, dissolved	7439-96-5	E465S	0.00010	mg/L	0.00243	0.00234	3.94%	20%	----
		Molybdenum, dissolved	7439-98-7	E465S	0.00010	mg/L	0.00833	0.00844	1.34%	20%	----
		Nickel, dissolved	7440-02-0	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E465S	0.050	mg/L	0.090	0.089	0.0005	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E465S	1.0	mg/L	346	359	3.61%	20%	----
		Rhenium, dissolved	7440-15-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E465S	0.0050	mg/L	0.0851	0.0841	1.21%	20%	----
		Selenium, dissolved	7782-49-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E465S	0.010	mg/L	5.84	5.65	3.36%	20%	----
		Sulfur, dissolved	7704-34-9	E465S	5.0	mg/L	889	900	1.13%	20%	----
		Tellurium, dissolved	13494-80-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E465S	0.000050	mg/L	0.00279	0.00272	2.63%	20%	----
		Vanadium, dissolved	7440-62-2	E465S	0.00050	mg/L	0.00131	0.00130	0.00001	Diff <2x LOR	----
		Yttrium, dissolved	7440-65-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E465S	0.0010	mg/L	0.0017	0.0014	0.0002	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1618990)											
YL2401213-001	MP05-Source-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1612153)											
VA24C0680-001	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Volatile Organic Compounds (QC Lot: 1612153) - continued											
VA24C0680-001	Anonymous	Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1612154)											
VA24C0761-007	Anonymous	F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----
		VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1611508)						
Solids, total suspended [TSS]	----	E160S	2	mg/L	<2.0	----
Physical Tests (QCLot: 1611515)						
Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	----
Physical Tests (QCLot: 1611569)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1614871)						
Conductivity	----	E100S	2	µS/cm	<2.0	----
Physical Tests (QCLot: 1614872)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Anions and Nutrients (QCLot: 1611606)						
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1611607)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1611608)						
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1611609)						
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	<0.0040	----
Anions and Nutrients (QCLot: 1614874)						
Bromide	24959-67-9	E235S.Br	5	mg/L	<5.0	----
Anions and Nutrients (QCLot: 1614875)						
Chloride	16887-00-6	E235S.Cl	50	mg/L	<50	----
Anions and Nutrients (QCLot: 1614880)						
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	<0.20	----
Anions and Nutrients (QCLot: 1614881)						
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1614882)						
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1614883)						
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	<3.0	----
Organic / Inorganic Carbon (QCLot: 1611604)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1611605)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1611605) - continued						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1612250)						
Aluminum, total	7429-90-5	E466S	0.005	mg/L	<0.0050	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	<0.0010	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	<0.00040	----
Barium, total	7440-39-3	E466S	0.001	mg/L	<0.0010	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	<0.00050	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	<0.00050	----
Boron, total	7440-42-8	E466S	0.3	mg/L	<0.30	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	<0.000020	----
Calcium, total	7440-70-2	E466S	1	mg/L	<1.0	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	<0.00050	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	<0.000050	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	<0.00050	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E466S	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	<0.00010	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	<0.020	----
Magnesium, total	7439-95-4	E466S	1	mg/L	<1.0	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	<0.00020	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	<0.00010	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E466S	1	mg/L	<1.0	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	<0.00050	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	<0.0050	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	<0.00050	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	<0.00010	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	<0.010	----
Sulfur, total	7704-34-9	E466S	5	mg/L	<5.0	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	<0.00050	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	<0.000050	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	<0.00050	----
Tin, total	7440-31-5	E466S	0.001	mg/L	<0.0010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1612250) - continued						
Titanium, total	7440-32-6	E466S	0.005	mg/L	<0.0050	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	<0.0010	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	<0.000050	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	<0.00050	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	<0.00050	----
Total Metals (QCLot: 1612254)						
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	<1.0	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	<2.5	----
Total Metals (QCLot: 1616186)						
Mercury, total	7439-97-6	E508S	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1616188)						
Mercury, total	7439-97-6	E508S	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1612354)						
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	<1.0	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	<2.5	----
Dissolved Metals (QCLot: 1612358)						
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	<0.0050	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	<0.0010	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	<0.00040	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	<0.0010	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	<0.00050	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	<0.00050	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	<0.30	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	<0.000020	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	<1.0	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	<0.00050	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	<0.000050	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	<0.00050	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	<0.00050	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	<0.00010	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	<0.020	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1612358) - continued						
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	<1.0	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	<0.00010	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	<1.0	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	<0.00050	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	<0.0050	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	<0.00050	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	<0.00010	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	<0.010	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	<5.0	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	<0.00050	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	<0.000050	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	<0.00050	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	<0.0010	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	<0.0050	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	<0.0010	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	<0.000050	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	<0.00050	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	<0.00050	----
Dissolved Metals (QCLot: 1618990)						
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1612153)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1611882)						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Hydrocarbons (QCLot: 1611882) - continued						
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
Hydrocarbons (QCLot: 1611884)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Hydrocarbons (QCLot: 1612154)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1611881)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1611508)									
Solids, total suspended [TSS]	----	E160S	2	mg/L	150 mg/L	91.7	85.0	115	----
Physical Tests (QCLot: 1611515)									
Solids, total dissolved [TDS]	----	E162S	10	mg/L	1000 mg/L	108	85.0	115	----
Physical Tests (QCLot: 1611569)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Physical Tests (QCLot: 1614871)									
Conductivity	----	E100S	2	µS/cm	147 µS/cm	100	80.0	120	----
Physical Tests (QCLot: 1614872)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	102	85.0	115	----
Physical Tests (QCLot: 1614873)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Anions and Nutrients (QCLot: 1611606)									
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	0.05 mg/L	94.0	80.0	120	----
Anions and Nutrients (QCLot: 1611607)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	94.3	85.0	115	----
Anions and Nutrients (QCLot: 1611608)									
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	4 mg/L	96.7	75.0	125	----
Anions and Nutrients (QCLot: 1611609)									
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	0.05 mg/L	93.3	80.0	120	----
Anions and Nutrients (QCLot: 1614874)									
Bromide	24959-67-9	E235S.Br	5	mg/L	0.5 mg/L	99.6	85.0	115	----
Anions and Nutrients (QCLot: 1614875)									
Chloride	16887-00-6	E235S.Cl	50	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1614880)									
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	1 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 1614881)									
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	2.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1614882)									
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	0.5 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 1614883)									
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	100 mg/L	103	90.0	110	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Organic / Inorganic Carbon (QCLot: 1611604)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	104	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1611605)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	103	80.0	120	----
Total Metals (QCLot: 1612250)									
Aluminum, total	7429-90-5	E466S	0.005	mg/L	2 mg/L	93.6	80.0	120	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	1 mg/L	103	80.0	120	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	1 mg/L	103	80.0	120	----
Barium, total	7440-39-3	E466S	0.001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	0.1 mg/L	97.5	80.0	120	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	1 mg/L	98.7	80.0	120	----
Boron, total	7440-42-8	E466S	0.3	mg/L	1 mg/L	91.6	80.0	120	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	0.1 mg/L	101	80.0	120	----
Calcium, total	7440-70-2	E466S	1	mg/L	50 mg/L	98.8	80.0	120	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	0.05 mg/L	100	80.0	120	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	0.25 mg/L	93.7	80.0	120	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	0.25 mg/L	90.0	80.0	120	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	0.25 mg/L	93.5	80.0	120	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	0.25 mg/L	98.8	80.0	120	----
Iron, total	7439-89-6	E466S	0.01	mg/L	1 mg/L	92.9	80.0	120	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	0.5 mg/L	98.8	80.0	120	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	0.25 mg/L	98.2	80.0	120	----
Magnesium, total	7439-95-4	E466S	1	mg/L	50 mg/L	111	80.0	120	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	0.25 mg/L	93.0	80.0	120	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	0.25 mg/L	93.6	80.0	120	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	0.5 mg/L	93.8	80.0	120	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	10 mg/L	101	80.0	120	----
Potassium, total	7440-09-7	E466S	1	mg/L	50 mg/L	100	80.0	120	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	0.1 mg/L	105	80.0	120	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	0.1 mg/L	92.1	80.0	120	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	1 mg/L	101	80.0	120	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	0.1 mg/L	97.6	80.0	120	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	0.25 mg/L	91.5	80.0	120	----
Sulfur, total	7704-34-9	E466S	5	mg/L	50 mg/L	103	80.0	120	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	0.1 mg/L	101	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1612250) - continued									
Thallium, total	7440-28-0	E466S	0.00005	mg/L	1 mg/L	98.8	80.0	120	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	0.1 mg/L	99.5	80.0	120	----
Tin, total	7440-31-5	E466S	0.001	mg/L	0.5 mg/L	102	80.0	120	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	0.25 mg/L	97.7	80.0	120	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	0.1 mg/L	97.7	80.0	120	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	0.005 mg/L	105	80.0	120	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	0.5 mg/L	92.4	80.0	120	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	0.1 mg/L	97.7	80.0	120	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	0.5 mg/L	91.4	80.0	120	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	0.1 mg/L	96.1	80.0	120	----
Total Metals (QCLot: 1612254)									
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	10 mg/L	106	80.0	120	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	50 mg/L	104	80.0	120	----
Total Metals (QCLot: 1616186)									
Mercury, total	7439-97-6	E508S	0.000005	mg/L	0 mg/L	99.2	80.0	120	----
Total Metals (QCLot: 1616188)									
Mercury, total	7439-97-6	E508S	0.000005	mg/L	0 mg/L	97.6	80.0	120	----
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	10 mg/L	102	80.0	120	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	50 mg/L	95.5	80.0	120	----
Dissolved Metals (QCLot: 1612358)									
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	2 mg/L	92.2	80.0	120	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	1 mg/L	109	80.0	120	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	1 mg/L	102	80.0	120	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	0.25 mg/L	105	80.0	120	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	0.1 mg/L	108	80.0	120	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	1 mg/L	100	80.0	120	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	1 mg/L	103	80.0	120	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	0.1 mg/L	101	80.0	120	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	50 mg/L	94.7	80.0	120	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	0.05 mg/L	105	80.0	120	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	0.25 mg/L	97.0	80.0	120	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	0.25 mg/L	93.4	80.0	120	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	0.25 mg/L	94.0	80.0	120	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	0.25 mg/L	99.4	80.0	120	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	1 mg/L	94.3	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report: Spike: Target Concentration	Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Dissolved Metals (QCLot: 1612358) - continued									
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	0.5 mg/L	98.4	80.0	120	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	0.25 mg/L	104	80.0	120	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	50 mg/L	112	80.0	120	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	0.25 mg/L	92.9	80.0	120	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	0.25 mg/L	89.2	80.0	120	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	0.5 mg/L	95.2	80.0	120	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	10 mg/L	106	80.0	120	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	50 mg/L	101	80.0	120	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	0.1 mg/L	105	80.0	120	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	0.1 mg/L	91.7	80.0	120	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	1 mg/L	104	80.0	120	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	0.1 mg/L	91.5	80.0	120	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	0.25 mg/L	90.0	80.0	120	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	50 mg/L	109	80.0	120	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	0.1 mg/L	104	80.0	120	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	1 mg/L	96.0	80.0	120	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	0.1 mg/L	102	80.0	120	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	0.5 mg/L	99.2	80.0	120	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	0.25 mg/L	97.4	80.0	120	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	0.1 mg/L	93.7	80.0	120	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	0.5 mg/L	95.6	80.0	120	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	0.1 mg/L	95.0	80.0	120	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	0.5 mg/L	93.5	80.0	120	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	0.1 mg/L	93.1	80.0	120	----
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	0 mg/L	93.8	80.0	120	----
Volatile Organic Compounds (QCLot: 1612153)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	94.7	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	97.1	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	100	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	98.2	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	100	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	101	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	97.6	70.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Hydrocarbons (QCLot: 1611882)									
EPH (C10-C19)	----	E601A	250	µg/L	6490 µg/L	110	70.0	130	----
EPH (C19-C32)	----	E601A	250	µg/L	3360 µg/L	116	70.0	130	----
Hydrocarbons (QCLot: 1611884)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	122	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	117	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	125	70.0	130	----
Hydrocarbons (QCLot: 1612154)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	12600 µg/L	80.8	70.0	130	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	12600 µg/L	82.9	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1611881)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	99.2	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	99.6	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	116	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	113	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	106	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	109	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	100	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	96.2	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	105	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	108	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	100	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	99.6	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	92.3	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	102	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	93.3	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	104	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	103	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	111	60.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1611606)										
YL2401213-002	MP05-North-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0468 mg/L	0.05 mg/L	93.5	70.0	130	----
Anions and Nutrients (QCLot: 1611607)										
VA24C0839-013	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0962 mg/L	0.1 mg/L	96.2	75.0	125	----
Anions and Nutrients (QCLot: 1611608)										
VA24C0839-013	Anonymous	Kjeldahl nitrogen, total [TKN]	----	E318S	3.02 mg/L	2.5 mg/L	121	70.0	130	----
Anions and Nutrients (QCLot: 1611609)										
VA24C0839-013	Anonymous	Phosphorus, total	7723-14-0	E372S	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1614874)										
VA24C1684-001	Anonymous	Bromide	24959-67-9	E235S.Br	49.4 mg/L	50 mg/L	98.9	75.0	125	----
Anions and Nutrients (QCLot: 1614875)										
VA24C1684-001	Anonymous	Chloride	16887-00-6	E235S.Cl	9860 mg/L	10000 mg/L	98.6	75.0	125	----
Anions and Nutrients (QCLot: 1614880)										
YL2401213-002	MP05-North-1-24	Fluoride	16984-48-8	E235S.F-L	9.78 mg/L	10 mg/L	97.8	75.0	125	----
Anions and Nutrients (QCLot: 1614881)										
YL2401213-002	MP05-North-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	7.32 mg/L	7.5 mg/L	97.6	75.0	125	----
Anions and Nutrients (QCLot: 1614882)										
YL2401213-002	MP05-North-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	5.10 mg/L	5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1614883)										
YL2401213-002	MP05-North-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1611604)										
VA24C0839-013	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.48 mg/L	5 mg/L	110	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1611605)										
VA24C0839-013	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.58 mg/L	5 mg/L	112	70.0	130	----
Total Metals (QCLot: 1612250)										
VA24C1337-002	Anonymous	Aluminum, total	7429-90-5	E466S	3.02 mg/L	4 mg/L	75.5	70.0	130	----
		Antimony, total	7440-36-0	E466S	0.391 mg/L	0.4 mg/L	97.7	70.0	130	----
		Arsenic, total	7440-38-2	E466S	0.402 mg/L	0.4 mg/L	100	70.0	130	----
		Barium, total	7440-39-3	E466S	0.394 mg/L	0.4 mg/L	98.4	70.0	130	----
		Beryllium, total	7440-41-7	E466S	0.704 mg/L	0.8 mg/L	88.0	70.0	130	----
		Bismuth, total	7440-69-9	E466S	0.185 mg/L	0.2 mg/L	92.6	70.0	130	----
		Boron, total	7440-42-8	E466S	1.81 mg/L	2 mg/L	90.7	70.0	130	----
		Cadmium, total	7440-43-9	E466S	0.0774 mg/L	0.08 mg/L	96.8	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1612250) - continued										
VA24C1337-002	Anonymous	Calcium, total	7440-70-2	E466S	75.9 mg/L	80 mg/L	94.9	70.0	130	----
		Cesium, total	7440-46-2	E466S	0.198 mg/L	0.2 mg/L	99.0	70.0	130	----
		Chromium, total	7440-47-3	E466S	0.719 mg/L	0.8 mg/L	89.9	70.0	130	----
		Cobalt, total	7440-48-4	E466S	0.341 mg/L	0.4 mg/L	85.2	70.0	130	----
		Copper, total	7440-50-8	E466S	0.350 mg/L	0.4 mg/L	87.4	70.0	130	----
		Gallium, total	7440-55-3	E466S	0.0492 mg/L	0.05 mg/L	98.3	70.0	130	----
		Iron, total	7439-89-6	E466S	34.6 mg/L	40 mg/L	86.5	70.0	130	----
		Lead, total	7439-92-1	E466S	0.367 mg/L	0.4 mg/L	91.7	70.0	130	----
		Lithium, total	7439-93-2	E466S	1.97 mg/L	2 mg/L	98.3	70.0	130	----
		Magnesium, total	7439-95-4	E466S	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E466S	0.350 mg/L	0.4 mg/L	87.4	70.0	130	----
		Molybdenum, total	7439-98-7	E466S	0.359 mg/L	0.4 mg/L	89.8	70.0	130	----
		Nickel, total	7440-02-0	E466S	0.693 mg/L	0.8 mg/L	86.6	70.0	130	----
		Phosphorus, total	7723-14-0	E466S	189 mg/L	200 mg/L	94.6	70.0	130	----
		Potassium, total	7440-09-7	E466S	78.9 mg/L	80 mg/L	98.7	70.0	130	----
		Rhenium, total	7440-15-5	E466S	0.0508 mg/L	0.05 mg/L	102	70.0	130	----
		Rubidium, total	7440-17-7	E466S	0.352 mg/L	0.4 mg/L	88.1	70.0	130	----
		Selenium, total	7782-49-2	E466S	0.794 mg/L	0.8 mg/L	99.2	70.0	130	----
		Silver, total	7440-22-4	E466S	0.0753 mg/L	0.08 mg/L	94.2	70.0	130	----
		Strontium, total	7440-24-6	E466S	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E466S	374 mg/L	400 mg/L	93.4	70.0	130	----
		Tellurium, total	13494-80-9	E466S	0.768 mg/L	0.8 mg/L	96.0	70.0	130	----
		Thallium, total	7440-28-0	E466S	0.0735 mg/L	0.08 mg/L	91.8	70.0	130	----
		Thorium, total	7440-29-1	E466S	0.355 mg/L	0.4 mg/L	88.8	70.0	130	----
		Tin, total	7440-31-5	E466S	0.388 mg/L	0.4 mg/L	96.9	70.0	130	----
		Titanium, total	7440-32-6	E466S	0.767 mg/L	0.8 mg/L	95.9	70.0	130	----
		Tungsten, total	7440-33-7	E466S	0.358 mg/L	0.4 mg/L	89.4	70.0	130	----
		Uranium, total	7440-61-1	E466S	0.0780 mg/L	0.08 mg/L	97.5	70.0	130	----
		Vanadium, total	7440-62-2	E466S	1.80 mg/L	2 mg/L	90.3	70.0	130	----
		Yttrium, total	7440-65-5	E466S	0.0493 mg/L	0.05 mg/L	98.6	70.0	130	----
		Zinc, total	7440-66-6	E466S	6.92 mg/L	8 mg/L	86.5	70.0	130	----
		Zirconium, total	7440-67-7	E466S	0.732 mg/L	0.8 mg/L	91.5	70.0	130	----
Total Metals (QCLot: 1612254)										
VA24C1337-002	Anonymous	Silicon, total	7440-21-3	E468S.NaSi	482 mg/L	500 mg/L	96.4	70.0	130	----
		Sodium, total	7440-23-5	E468S.NaSi	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1616186)										
VA24C1337-002	Anonymous	Mercury, total	7439-97-6	E508S	0.000102 mg/L	0 mg/L	102	70.0	130	----
Total Metals (QCLot: 1616188)										
YL2401213-003	MP05-ENE-1-24	Mercury, total	7439-97-6	E508S	0.000101 mg/L	0 mg/L	101	70.0	130	----
Dissolved Metals (QCLot: 1612354)										
VA24C1337-002	Anonymous	Silicon, dissolved	7440-21-3	E469S.NaSi	484 mg/L	500 mg/L	96.8	70.0	130	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	ND mg/L	----	ND	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1612358)										
VA24C1337-002	Anonymous	Aluminum, dissolved	7429-90-5	E465S	3.63 mg/L	4 mg/L	90.8	70.0	130	----
		Antimony, dissolved	7440-36-0	E465S	0.400 mg/L	0.4 mg/L	100.0	70.0	130	----
		Arsenic, dissolved	7440-38-2	E465S	0.405 mg/L	0.4 mg/L	101	70.0	130	----
		Barium, dissolved	7440-39-3	E465S	0.403 mg/L	0.4 mg/L	101	70.0	130	----
		Beryllium, dissolved	7440-41-7	E465S	0.850 mg/L	0.8 mg/L	106	70.0	130	----
		Bismuth, dissolved	7440-69-9	E465S	0.177 mg/L	0.2 mg/L	88.7	70.0	130	----
		Boron, dissolved	7440-42-8	E465S	2.00 mg/L	2 mg/L	100.0	70.0	130	----
		Cadmium, dissolved	7440-43-9	E465S	0.0778 mg/L	0.08 mg/L	97.2	70.0	130	----
		Calcium, dissolved	7440-70-2	E465S	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E465S	0.207 mg/L	0.2 mg/L	103	70.0	130	----
		Chromium, dissolved	7440-47-3	E465S	0.764 mg/L	0.8 mg/L	95.5	70.0	130	----
		Cobalt, dissolved	7440-48-4	E465S	0.362 mg/L	0.4 mg/L	90.6	70.0	130	----
		Copper, dissolved	7440-50-8	E465S	0.355 mg/L	0.4 mg/L	88.7	70.0	130	----
		Gallium, dissolved	7440-55-3	E465S	0.0504 mg/L	0.05 mg/L	101	70.0	130	----
		Iron, dissolved	7439-89-6	E465S	36.4 mg/L	40 mg/L	90.9	70.0	130	----
		Lead, dissolved	7439-92-1	E465S	0.362 mg/L	0.4 mg/L	90.5	70.0	130	----
		Lithium, dissolved	7439-93-2	E465S	2.06 mg/L	2 mg/L	103	70.0	130	----
		Magnesium, dissolved	7439-95-4	E465S	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E465S	0.362 mg/L	0.4 mg/L	90.6	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E465S	0.361 mg/L	0.4 mg/L	90.3	70.0	130	----
		Nickel, dissolved	7440-02-0	E465S	0.717 mg/L	0.8 mg/L	89.6	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E465S	207 mg/L	200 mg/L	104	70.0	130	----
		Potassium, dissolved	7440-09-7	E465S	80.6 mg/L	80 mg/L	101	70.0	130	----
		Rhenium, dissolved	7440-15-5	E465S	0.0511 mg/L	0.05 mg/L	102	70.0	130	----
		Rubidium, dissolved	7440-17-7	E465S	0.364 mg/L	0.4 mg/L	91.0	70.0	130	----
		Selenium, dissolved	7782-49-2	E465S	0.830 mg/L	0.8 mg/L	104	70.0	130	----
		Silver, dissolved	7440-22-4	E465S	0.0728 mg/L	0.08 mg/L	91.0	70.0	130	----
		Strontium, dissolved	7440-24-6	E465S	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E465S	417 mg/L	400 mg/L	104	70.0	130	----
		Tellurium, dissolved	13494-80-9	E465S	0.768 mg/L	0.8 mg/L	95.9	70.0	130	----
		Thallium, dissolved	7440-28-0	E465S	0.0716 mg/L	0.08 mg/L	89.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E465S	0.381 mg/L	0.4 mg/L	95.2	70.0	130	----
		Tin, dissolved	7440-31-5	E465S	0.380 mg/L	0.4 mg/L	95.0	70.0	130	----
		Titanium, dissolved	7440-32-6	E465S	0.762 mg/L	0.8 mg/L	95.3	70.0	130	----
		Tungsten, dissolved	7440-33-7	E465S	0.380 mg/L	0.4 mg/L	95.0	70.0	130	----
		Uranium, dissolved	7440-61-1	E465S	0.0787 mg/L	0.08 mg/L	98.4	70.0	130	----
		Vanadium, dissolved	7440-62-2	E465S	1.93 mg/L	2 mg/L	96.4	70.0	130	----
		Yttrium, dissolved	7440-65-5	E465S	0.0489 mg/L	0.05 mg/L	97.8	70.0	130	----
		Zinc, dissolved	7440-66-6	E465S	7.23 mg/L	8 mg/L	90.4	70.0	130	----
		Zirconium, dissolved	7440-67-7	E465S	0.732 mg/L	0.8 mg/L	91.5	70.0	130	----
Dissolved Metals (QCLot: 1618990)										
YL2401213-002	MP05-North-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000917 mg/L	0 mg/L	91.7	70.0	130	----
Volatile Organic Compounds (QCLot: 1612153)										

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1612153) - continued										
VA24C0680-001	Anonymous	Benzene	71-43-2	E611A	98.1 µg/L	100 µg/L	98.1	60.0	140	----
		Ethylbenzene	100-41-4	E611A	95.3 µg/L	100 µg/L	95.3	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	105 µg/L	100 µg/L	105	60.0	140	----
		Styrene	100-42-5	E611A	98.5 µg/L	100 µg/L	98.5	60.0	140	----
		Toluene	108-88-3	E611A	102 µg/L	100 µg/L	102	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	208 µg/L	200 µg/L	104	60.0	140	----
		Xylene, o-	95-47-6	E611A	97.5 µg/L	100 µg/L	97.5	60.0	140	----
Hydrocarbons (QCLot: 1612154)										
VA24C0761-008	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5880 µg/L	6310 µg/L	93.2	60.0	140	----
		VHw (C6-C10)	----	E581.VH+F1	5910 µg/L	6310 µg/L	93.6	60.0	140	----

Chain of Custody (COC) / Analytical Request Form

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Canada Toll Free: 1 800 668 9878

COC Number: 21 -

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Environmental Division Yellowknife

Work Order Reference YL2401213

Telephone : +1 867 873 5593

Report To	Contact and company name below will appear on the final report	Reports / Recipients	Turnaround Time (TAT) Requested
Company:	WSP Canada Inc.	Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	☑ Routine [R] if received by 3pm M-F - no surcharges apply
Contact:	~~Elaine Irving~~/Connor Pettem	Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A	☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimu
Phone:	1-604-297-2030/1-604-296-4200	☐ Compare Results to Criteria on Report - provide details below if box checked	☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minim
	Company address below will appear on the final report	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minim
Street:	840 Howe Street, 10th Floor	Email 1 or Fax ~~elaine.irving@wsp.com~~	☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minim
City/Province:	Vancouver, BC	Email 2 connor.pettem@wsp.com	☐ Same day [E2] if received by 10am M-S - 200% rush surcharge
Postal Code:	V6Z 2M1	Email 3 trish.tomliens@wsp.com	Additional fees may apply to rush requests on weekend
Invoice To	Same as Report To ☑ YES ☐ NO	Invoice Recipients	Date and Time Required for all E&P TATs:
	Copy of Invoice with Report ☐ YES ☑ NO	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	For all tests with rush TATs requested, please contact your AM to confirm availability.
Company:		Email 1 or Fax	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	GOLD100-011	Major/Minor Code:	Routing Code:
PO / AFE:	CA0026317.6821/86000/03	Requisitioner:	
LSD:		Location:	

ALS Lab Work Order # (ALS use only): | ALS Contact: Amber Springer | Sampler: TT/MR/DV

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	General (alkalinity, turbidity, cond.)	Anions, TOC, DOC, Hard., Salinity	pH, TSS, TDS, Ammonia, TKN	Dissolved Metals	Total Metals	Dissolved Hg	Total Hg	Nutrients (including total phosphorus)	Petroleum hydrocarbons (MTBE)	Petroleum hydrocarbons (BTEX,F1)	Hydrocarbons (LEPH/HEPH)	PAH, F2-F4	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
									F/P	P	F/P	P	P	P	P	P	P			
	MP05-Source-1-24	15-Aug-24	8:41	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MP05-North-1-24	↓	8:55	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MP05-ENE-1-24		8:51	Seawater	6	R	R	R	R	R	R	R	R							
	MP05-WNW-1-24		8:35	Seawater	6	R	R	R	R	R	R	R	R							
	MP06-Source-2-24		7:46	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MP06-North-2-24		8:18	Seawater	6	R	R	R	R	R	R	R	R							
	MP06-ENE-2-24		7:55	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MP06-WNW-2-24		8:26	Seawater	6	R	R	R	R	R	R	R	R							
	DUP- D	↓	—	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	[redacted]			Seawater		R	R	R	R	R	R	R	R							

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? ☐ YES ☑ NO	Refer to quote GOLD100-011 for all analyses.
Are samples for human consumption/ use? ☐ YES ☑ NO	

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
10.9							

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by: Patricia Tomliens	Date: 15 Aug 2024	Time: 11:00	Received by:	Date: AUG 19 24	Time: 1044	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION — WHITE - LABORATORY COPY — YELLOW - CLIENT COPY — AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

CERTIFICATE OF ANALYSIS

Work Order	: **VA24C1760**	Page	: 1 of 16
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Vancouver
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 22-Aug-2024 08:35
PO	: ----	Date Analysis Commenced	: 27-Aug-2024
C-O-C number	: ----	Issue Date	: 03-Sep-2024 17:42
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Alex Thornton	Analyst	Metals, Burnaby, British Columbia
Anshim Anshim	Lab Assistant	Metals, Burnaby, British Columbia
Daniel Shabestani	Lab Assistant	Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	Metals, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
psu	practical salinity units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	*Description*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	18-Aug-2024 15:16	18-Aug-2024 15:25	18-Aug-2024 15:21	18-Aug-2024 15:09	18-Aug-2024 14:43
						VA24C1760-001	VA24C1760-002	VA24C1760-003	VA24C1760-004	VA24C1760-005
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		103	103	103	103	103
Conductivity	----	E100S/VA	2.0	µS/cm		40900	40000	40900	40300	40600
pH	----	E108/VA	0.10	pH units		7.96	7.97	7.97	7.95	7.97
Salinity	----	EC100S/VA	1.0	psu		27.3	26.7	27.3	26.9	27.1
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L		29300	29700	30400	30300	30500
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L		<2.0	<2.0	2.7	2.6	2.5
Turbidity	----	E121/VA	0.10	NTU		0.30	0.37	0.28	0.41	0.40
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		5090	4530	4840	4670	4790
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L		5000	4790	4780	4780	4710
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		0.0064	0.0072	<0.0050	<0.0050	0.0051
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L		52.5	54.0	50.9	53.2	50.7
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L		15100	15500	14700	15400	14600
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L		0.85	0.90	0.92	0.92	0.90
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L		0.126	0.112	0.068	0.064	0.072
Nitrate (as N)	14797-55-8	E235S.NO3-T/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Nitrite (as N)	14797-65-0	E235S.NO2-L/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L		0.0192	0.0198	0.0201	0.0189	0.0204
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L		0.0188	0.0188	0.0198	0.0185	0.0192
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/VA	3.0	mg/L		1960	2050	2080	2050	2060
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L		1.08	0.94	1.00	0.92	0.99
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		1.01	1.11	0.98	1.04	1.00
Total Metals										
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L		0.0122	0.0114	0.0123	0.0137	0.0122
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L		0.00313	0.00357	0.00344	0.00320	0.00338

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	18-Aug-2024 15:16	18-Aug-2024 15:25	18-Aug-2024 15:21	18-Aug-2024 15:09	18-Aug-2024 14:43
						VA24C1760-001	VA24C1760-002	VA24C1760-003	VA24C1760-004	VA24C1760-005
						Result	Result	Result	Result	Result
Total Metals										
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L		0.0083	0.0084	0.0086	0.0082	0.0080
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total	7440-42-8	E466S/VA	0.30	mg/L		3.43	3.56	3.65	3.70	3.55
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L		0.000026	0.000020	0.000030	0.000035	0.000024
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L		355	360	351	353	354
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L		0.000059	0.000058	0.000064	0.000077	0.000058
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L		<0.00050	0.00139	<0.00050	<0.00050	<0.00050
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, total	7439-89-6	E466S/VA	0.010	mg/L		0.019	0.016	0.018	0.023	0.019
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L		0.149	0.156	0.158	0.157	0.156
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L		1000	946	947	947	930
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L		0.00113	0.00103	0.00104	0.00114	0.00111
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L		0.00846	0.00808	0.00782	0.00776	0.00779
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L		285	287	280	281	285
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L		0.0851	0.0846	0.0827	0.0796	0.0802
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, total	7440-21-3	E468S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, total	7440-23-5	E468S.NaSi/VA	2.5	mg/L		8380	7760	7780	7730	7770
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L		5.69	5.64	5.49	5.31	5.36

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	18-Aug-2024 15:16	18-Aug-2024 15:25	18-Aug-2024 15:21	18-Aug-2024 15:09	18-Aug-2024 14:43
						VA24C1760-001	VA24C1760-002	VA24C1760-003	VA24C1760-004	VA24C1760-005
						Result	Result	Result	Result	Result
Total Metals										
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L		745	754	714	749	707
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L		0.00289	0.00281	0.00283	0.00279	0.00350
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L		0.00094	0.00095	0.00088	0.00086	0.00092
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L		0.00333	0.00349	0.00349	0.00364	0.00353
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L		0.0089	0.0082	0.0080	0.0083	0.0081
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L		3.50	3.55	3.58	3.52	3.60
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L		0.000024	0.000022	0.000025	0.000021	0.000028
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L		358	334	346	345	350
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L		0.000062	0.000055	0.000058	0.000056	0.000060
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L		0.157	0.155	0.153	0.152	0.160

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	18-Aug-2024 15:16	18-Aug-2024 15:25	18-Aug-2024 15:21	18-Aug-2024 15:09	18-Aug-2024 14:43
						VA24C1760-001	VA24C1760-002	VA24C1760-003	VA24C1760-004	VA24C1760-005
						Result	Result	Result	Result	Result
Dissolved Metals										
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L		1020	898	966	926	951
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L		0.00083	0.00065	0.00066	0.00064	0.00071
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L		<0.0000100 DLM	<0.0000100 DLM	<0.0000100 DLM	<0.0000100 DLM	<0.0000100 DLM
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L		0.00866	0.00783	0.00765	0.00834	0.00831
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	0.00063
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L		291	273	281	275	284
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L		0.0885	0.0814	0.0815	0.0830	0.0851
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, dissolved	7440-21-3	E469S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, dissolved	7440-23-5	E469S.NaSi/VA	2.5	mg/L		8340	7540	7770	7680	7800
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L		5.88	5.45	5.41	5.57	5.74
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L		754	713	731	757	717
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L		0.00296	0.00273	0.00268	0.00285	0.00345
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L		0.00093	0.00082	0.00086	0.00088	0.00088
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421S/VA	-	-		Field	Field	Field	Field	Field

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	18-Aug-2024 15:16	18-Aug-2024 15:25	18-Aug-2024 15:21	18-Aug-2024 15:09	18-Aug-2024 14:43
						VA24C1760-001	VA24C1760-002	VA24C1760-003	VA24C1760-004	VA24C1760-005
						Result	Result	Result	Result	Result
Dissolved Metals										
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Styrene	100-42-5	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Toluene	108-88-3	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		<0.40	<0.40	----	----	<0.40
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		<0.30	<0.30	----	----	<0.30
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L		<250	<250	----	----	<250
EPH (C19-C32)	----	E601A/VA	250	µg/L		<250	<250	----	----	<250
F2 (C10-C16)	----	E601/VA	100	µg/L		<100	<100	----	----	<100
F3 (C16-C34)	----	E601/VA	250	µg/L		<250	<250	----	----	<250
F4 (C34-C50)	----	E601/VA	250	µg/L		<250	<250	----	----	<250
TEH (C10-C50)	n/a	E601/VA	400	µg/L		<400	<400	----	----	<400
TEH (C16-C50)	----	E601/VA	400	µg/L		<400	<400	----	----	<400
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	----	----	<100
F1-BTEX	----	EC580/VA	100	µg/L		<100	<100	----	----	<100
HEPHw	----	EC600A/VA	250	µg/L		<250	<250	----	----	<250
LEPHw	----	EC600A/VA	250	µg/L		<250	<250	----	----	<250
VPHw	----	EC580A/VA	100	µg/L		<100	<100	----	----	<100
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	----	----	<100
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		97.4	91.7	----	----	98.9
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		91.3	91.1	----	----	94.5
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		111	108	----	----	106

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	18-Aug-2024 15:16	18-Aug-2024 15:25	18-Aug-2024 15:21	18-Aug-2024 15:09	18-Aug-2024 14:43
						VA24C1760-001	VA24C1760-002	VA24C1760-003	VA24C1760-004	VA24C1760-005
						Result	Result	Result	Result	Result
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		83.9	84.6	----	----	87.8
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		99.4	99.2	----	----	100
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Acridine	260-94-6	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Anthracene	120-12-7	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		<0.0050	<0.0050	----	----	<0.0050
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		<0.015	<0.015	----	----	<0.015
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Chrysene	218-01-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		<0.0050	<0.0050	----	----	<0.0050
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Fluorene	86-73-7	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Naphthalene	91-20-3	E641A/VA	0.050	µg/L		<0.050	<0.050	----	----	<0.050
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L		<0.020	<0.020	----	----	<0.020
Pyrene	129-00-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Quinoline	91-22-5	E641A/VA	0.050	µg/L		<0.050	<0.050	----	----	<0.050
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%		85.2	82.6	----	----	84.8
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%		127	125	----	----	130
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%		123	121	----	----	123

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-E	MLP-03
					Client sampling date / time	18-Aug-2024 14:50	18-Aug-2024 14:55	18-Aug-2024 15:02	18-Aug-2024 00:00	18-Aug-2024 00:00
						VA24C1760-006	VA24C1760-007	VA24C1760-008	VA24C1760-009	VA24C1760-010
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		105	105	104	104	<1.0
Conductivity	----	E100S/VA	2.0	µS/cm		44700	43400	40600	40500	<2.0
pH	----	E108/VA	0.10	pH units		7.98	7.98	7.98	7.94	5.49
Salinity	----	EC100S/VA	1.0	psu		30.2	29.2	27.1	27.0	<1.0
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L		32900	31900	30300	31100	<10
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L		<2.0	<2.0	2.6	<2.0	<2.0
Turbidity	----	E121/VA	0.10	NTU		0.29	0.26	0.32	0.33	<0.10
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		5140	5080	4780	4820	<1.00
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L		5290	5110	4680	4670	<1.00
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		0.0071	<0.0050	<0.0050	<0.0050	0.0052
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L		59.8	54.4	49.6	50.0	<5.0
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L		17300	15800	14300	14500	<50
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L		0.97	0.91	0.91	0.84	<0.20
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L		0.073	0.071	<0.050	0.076	0.051
Nitrate (as N)	14797-55-8	E235S.NO3-T/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Nitrite (as N)	14797-65-0	E235S.NO2-L/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L		0.0229	0.0219	0.0188	0.0191	0.0040
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L		0.0225	0.0220	0.0190	0.0203	<0.0020
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/VA	3.0	mg/L		2270	2090	2040	1940	<3.0
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L		1.09	0.93	0.97	1.19	<0.50
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		0.92	0.94	0.97	1.11	<0.50
Total Metals										
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L		0.0125	0.0122	0.0121	0.0142	<0.0050
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L		0.00378	0.00380	0.00347	0.00325	<0.00040
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L		0.0080	0.0080	0.0083	0.0082	<0.0010

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-E	MLP-03
					Client sampling date / time	18-Aug-2024 14:50	18-Aug-2024 14:55	18-Aug-2024 15:02	18-Aug-2024 00:00	18-Aug-2024 00:00
						VA24C1760-006	VA24C1760-007	VA24C1760-008	VA24C1760-009	VA24C1760-010
						Result	Result	Result	Result	Result
Total Metals										
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total	7440-42-8	E466S/VA	0.30	mg/L		3.86	3.85	3.57	3.53	<0.30
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L		0.000033	0.000033	0.000028	0.000031	<0.000020
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L		386	381	347	350	<1.0
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L		0.000065	0.000063	0.000058	0.000062	<0.000050
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	0.00062	<0.00050
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, total	7439-89-6	E466S/VA	0.010	mg/L		0.017	0.016	0.017	0.019	<0.010
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L		0.178	0.173	0.156	0.154	<0.020
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L		1050	1010	925	921	<1.0
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L		0.00083	0.00085	0.00097	0.00099	<0.00020
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L		0.00906	0.00906	0.00783	0.00777	<0.00010
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L		316	308	280	277	<1.0
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L		0.0944	0.0912	0.0815	0.0824	<0.0050
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, total	7440-21-3	E468S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, total	7440-23-5	E468S.NaSi/VA	2.5	mg/L		8580	8310	7500	7560	<2.5
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L		6.33	6.05	5.42	5.47	<0.010
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L		790	778	702	685	<5.0

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-E	MLP-03
					Client sampling date / time	18-Aug-2024 14:50	18-Aug-2024 14:55	18-Aug-2024 15:02	18-Aug-2024 00:00	18-Aug-2024 00:00
						VA24C1760-006	VA24C1760-007	VA24C1760-008	VA24C1760-009	VA24C1760-010
						Result	Result	Result	Result	Result
Total Metals										
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L		0.00302	0.00285	0.00279	0.00277	<0.000050
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L		0.00099	0.00097	0.00083	0.00090	<0.00050
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L		0.00405	0.00378	0.00354	0.00397	<0.00040
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L		0.0078	0.0079	0.0082	0.0086	<0.0010
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L		3.73	3.76	3.51	3.60	<0.30
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L		0.000028	0.000027	0.000021	0.000026	<0.000020
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L		375	371	351	359	<1.0
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L		0.000059	0.000060	0.000053	0.000054	<0.000050
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L		0.170	0.169	0.159	0.157	<0.020
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L		1020	1010	948	954	<1.0

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-E	MLP-03
					Client sampling date / time	18-Aug-2024 14:50	18-Aug-2024 14:55	18-Aug-2024 15:02	18-Aug-2024 00:00	18-Aug-2024 00:00
						VA24C1760-006	VA24C1760-007	VA24C1760-008	VA24C1760-009	VA24C1760-010
						Result	Result	Result	Result	Result
Dissolved Metals										
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L		0.00048	0.00049	0.00063	0.00068	<0.00010
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L		<0.0000100 DLM	<0.0000100 DLM	<0.0000100 DLM	<0.0000100 DLM	<0.0000050
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L		0.00862	0.00874	0.00792	0.00822	<0.00010
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L		299	297	283	282	<1.0
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L		0.0898	0.0892	0.0834	0.0871	<0.0050
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, dissolved	7440-21-3	E469S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, dissolved	7440-23-5	E469S.NaSi/VA	2.5	mg/L		8270	8050	7530	7790	<2.5
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L		5.97	6.09	5.54	5.81	<0.010
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L		790	770	711	743	<5.0
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L		0.00299	0.00288	0.00270	0.00287	<0.000050
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L		0.00093	0.00096	0.00087	0.00088	<0.00050
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421S/VA	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-E	MLP-03
					Client sampling date / time	18-Aug-2024 14:50	18-Aug-2024 14:55	18-Aug-2024 15:02	18-Aug-2024 00:00	18-Aug-2024 00:00
						VA24C1760-006	VA24C1760-007	VA24C1760-008	VA24C1760-009	VA24C1760-010
						Result	Result	Result	Result	Result
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Styrene	100-42-5	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Toluene	108-88-3	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		----	<0.40	----	----	----
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		----	<0.30	----	----	----
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L		----	<250	----	----	----
EPH (C19-C32)	----	E601A/VA	250	µg/L		----	<250	----	----	----
F2 (C10-C16)	----	E601/VA	100	µg/L		----	<100	----	----	----
F3 (C16-C34)	----	E601/VA	250	µg/L		----	310	----	----	----
F4 (C34-C50)	----	E601/VA	250	µg/L		----	530	----	----	----
TEH (C10-C50)	n/a	E601/VA	400	µg/L		----	840	----	----	----
TEH (C16-C50)	----	E601/VA	400	µg/L		----	840	----	----	----
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L		----	<100	----	----	----
F1-BTEX	----	EC580/VA	100	µg/L		----	<100	----	----	----
HEPHw	----	EC600A/VA	250	µg/L		----	<250	----	----	----
LEPHw	----	EC600A/VA	250	µg/L		----	<250	----	----	----
VPHw	----	EC580A/VA	100	µg/L		----	<100	----	----	----
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L		----	<100	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		----	94.9	----	----	----
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		----	92.6	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		----	106	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		----	87.2	----	----	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-North-2-24	MP06-ENE-2-24	MP06-WNW-2-24	Dup-E	MLP-03
					Client sampling date / time	18-Aug-2024 14:50	18-Aug-2024 14:55	18-Aug-2024 15:02	18-Aug-2024 00:00	18-Aug-2024 00:00
						VA24C1760-006	VA24C1760-007	VA24C1760-008	VA24C1760-009	VA24C1760-010
						Result	Result	Result	Result	Result
Volatile Organic Compounds Surrogates										
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		----	100	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Acridine	260-94-6	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Anthracene	120-12-7	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		----	<0.0050	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		----	<0.015	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Chrysene	218-01-9	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		----	<0.0050	----	----	----
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Fluorene	86-73-7	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Naphthalene	91-20-3	E641A/VA	0.050	µg/L		----	<0.050	----	----	----
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L		----	<0.020	----	----	----
Pyrene	129-00-0	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Quinoline	91-22-5	E641A/VA	0.050	µg/L		----	<0.050	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%		----	88.1	----	----	----
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%		----	129	----	----	----
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%		----	123	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA24C1760**	Page	: 1 of 40
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Vancouver
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 22-Aug-2024 08:35
PO	: ----	Issue Date	: 03-Sep-2024 17:42
C-O-C number	: ----		
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MLP-03	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Dup-E	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-North-2-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-Source-2-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE Dup-E	E235S.Br	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MLP-03	E235S.Br	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Br	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-North-1-24	E235S.Br	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-Source-1-24	E235S.Br	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-WNW-1-24	E235S.Br	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-ENE-2-24	E235S.Br	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-North-2-24	E235S.Br	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Br	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Br	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE Dup-E	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MLP-03	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-North-1-24	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-Source-1-24	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Chloride in Seawater by IC										
HDPE										
MP05-WNW-1-24	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE										
MP06-ENE-2-24	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE										
MP06-North-2-24	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE										
MP06-Source-2-24	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE										
MP06-WNW-2-24	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
Dup-E	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MLP-03	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP05-ENE-1-24	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP05-North-1-24	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP05-Source-1-24	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP05-WNW-1-24	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP06-ENE-2-24	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP06-North-2-24	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP06-Source-2-24	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE										
MP06-WNW-2-24	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
Dup-E	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP05-ENE-1-24	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
MP05-North-1-24	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-Source-1-24	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-WNW-1-24	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-ENE-2-24	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-North-2-24	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-Source-2-24	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-WNW-2-24	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MLP-03	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	9 days	× EHTR	27-Aug-2024	3 days	9 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE Dup-E	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP05-North-1-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP05-Source-1-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP05-WNW-1-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP06-ENE-2-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP06-North-2-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP06-Source-2-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MP06-WNW-2-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	3 days	8 days	× EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
MLP-03	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	9 days	× EHTR	27-Aug-2024	3 days	9 days	× EHTR
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE										
Dup-E	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MLP-03	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) Dup-E	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-ENE-1-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-North-1-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-Source-1-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-WNW-1-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-ENE-2-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-North-2-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-Source-2-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-WNW-2-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	29-Aug-2024	28 days	2 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved)										
MLP-03	E375-T	18-Aug-2024	27-Aug-2024	3 days	9 days	× EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
Dup-E	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-ENE-1-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-North-1-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-Source-1-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP05-WNW-1-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-ENE-2-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-North-2-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-Source-2-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MLP-03	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Dup-E	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-North-1-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-North-2-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MP06-Source-2-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MP06-WNW-2-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MLP-03	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
HDPE dissolved (nitric acid)										
MLP-03	E509S	18-Aug-2024	03-Sep-2024	0 hrs	396 hrs	× UCP	03-Sep-2024	0 hrs	396 hrs	× UCP
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
Dup-E	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP05-ENE-1-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP05-North-1-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP05-Source-1-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP05-WNW-1-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-ENE-2-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-North-2-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-Source-2-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-WNW-2-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
Dup-E	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-ENE-1-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-North-1-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-Source-1-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-WNW-1-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-ENE-2-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-North-2-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-Source-2-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-WNW-2-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MLP-03	E465S	18-Aug-2024	29-Aug-2024	180 days	12 days	✓	29-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) Dup-E	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-ENE-1-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-North-1-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-Source-1-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-WNW-1-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-ENE-2-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-North-2-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-Source-2-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-WNW-2-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MLP-03	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	12 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E601A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E601A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E601A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-Source-2-24	E601A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP05-North-1-24	E601	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP05-Source-1-24	E601	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-ENE-2-24	E601	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-Source-2-24	E601	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP05-North-1-24	E581.VH+F1	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP05-Source-1-24	E581.VH+F1	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP06-ENE-2-24	E581.VH+F1	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP06-Source-2-24	E581.VH+F1	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
Dup-E	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP05-ENE-1-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP05-North-1-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP05-Source-1-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP05-WNW-1-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP06-ENE-2-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP06-North-2-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP06-Source-2-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MP06-WNW-2-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	× EHTR	27-Aug-2024	28 days	0 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
MLP-03	E358-L	18-Aug-2024	27-Aug-2024	3 days	9 days	× EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
Dup-E	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MLP-03	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP05-ENE-1-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP05-North-1-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP05-Source-1-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP05-WNW-1-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP06-ENE-2-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP06-North-2-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP06-Source-2-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP06-WNW-2-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
MLP-03	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
Dup-E	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
MP05-ENE-1-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
MP05-North-1-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
MP05-Source-1-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
MP05-WNW-1-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
MP06-ENE-2-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-North-2-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-Source-2-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-WNW-2-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MLP-03	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE Dup-E	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-ENE-1-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-North-1-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-Source-1-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-WNW-1-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Seawater										
HDPE MP06-ENE-2-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-North-2-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-Source-2-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-WNW-2-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : pH by Meter										
HDPE MP05-ENE-1-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	207 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	213 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-North-1-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	207 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	213 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-Source-1-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	207 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	213 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE Dup-E	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	208 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	213 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-WNW-1-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	208 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	213 hrs	× EHTR-FM

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE MP06-WNW-2-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	208 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	213 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-ENE-2-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	208 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	214 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-North-2-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	208 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	214 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-Source-2-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	208 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	214 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MLP-03	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	223 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	228 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE Dup-E	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MLP-03	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	9 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE Dup-E	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	× EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MLP-03	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	9 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE Dup-E	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-ENE-1-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	× EHTR

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-North-1-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-Source-1-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-WNW-1-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-ENE-2-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-North-2-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-Source-2-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-WNW-2-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MLP-03	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	9 days	× EHTR
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E641A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP05-Source-1-24	E641A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-ENE-2-24	E641A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-Source-2-24	E641A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
Dup-E	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
MP05-ENE-1-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
MP05-North-1-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
MP05-Source-1-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
MP05-WNW-1-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
MP06-ENE-2-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-North-2-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-Source-2-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-WNW-2-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MLP-03	E508S	18-Aug-2024	30-Aug-2024	28 days	13 days	✓	30-Aug-2024	28 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) Dup-E	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-Source-1-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-North-2-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MLP-03	E466S	18-Aug-2024	29-Aug-2024	180 days	12 days	✓	29-Aug-2024	180 days	12 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) Dup-E	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-Source-1-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-North-2-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MLP-03	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	12 days	✓	29-Aug-2024	180 days	12 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-North-1-24	E611A	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-Source-1-24	E611A	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E611A	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
MP06-Source-2-24	E611A	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

UCP: Unsuitable Container and/or Preservative used (invalidates standard hold time). Maximum hold time of zero applied. Test results may be biased low / unreliable, and may not meet regulatory requirements.

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1617700	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1617539	1	10	10.0	5.0	✓
Bromide in Seawater by IC	E235S.Br	1617702	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1622540	1	20	5.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1617703	1	10	10.0	5.0	✓
Conductivity in Seawater	E100S	1617699	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1628650	2	10	20.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1619541	1	10	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1617536	1	10	10.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1619540	1	10	10.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1617704	1	10	10.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1617705	1	10	10.0	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1617706	1	10	10.0	5.0	✓
pH by Meter	E108	1617701	1	10	10.0	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1617707	1	10	10.0	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1618856	2	21	9.5	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1617538	1	10	10.0	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1617540	1	10	10.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1626537	1	10	10.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1619592	1	10	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1617537	1	10	10.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1617541	1	10	10.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1619583	1	10	10.0	5.0	✓
Turbidity by Nephelometry	E121	1618258	1	14	7.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1622541	1	10	10.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1617700	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1617539	1	10	10.0	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1620638	1	14	7.1	5.0	✓
Bromide in Seawater by IC	E235S.Br	1617702	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1622540	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1620640	1	4	25.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1617703	1	10	10.0	5.0	✓
Conductivity in Seawater	E100S	1617699	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1628650	2	10	20.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1619541	1	10	10.0	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1617536	1	10	10.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1619540	1	10	10.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1617704	1	10	10.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1617705	1	10	10.0	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1617706	1	10	10.0	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1620637	1	15	6.6	5.0	✓
pH by Meter	E108	1617701	1	10	10.0	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1617707	1	10	10.0	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1618856	2	21	9.5	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1617538	1	10	10.0	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1617540	1	10	10.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1626537	1	10	10.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1619592	1	10	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1617537	1	10	10.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1617541	1	10	10.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1619583	1	10	10.0	5.0	✓
TSS by Gravimetry (Seawater)	E160S	1618844	2	21	9.5	5.0	✓
Turbidity by Nephelometry	E121	1618258	1	14	7.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1622541	1	10	10.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1617700	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1617539	1	10	10.0	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1620638	1	14	7.1	5.0	✓
Bromide in Seawater by IC	E235S.Br	1617702	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1622540	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1620640	1	4	25.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1617703	1	10	10.0	5.0	✓
Conductivity in Seawater	E100S	1617699	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1628650	2	10	20.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1619541	1	10	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1617536	1	10	10.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1619540	1	10	10.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1617704	1	10	10.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1617705	1	10	10.0	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1617706	1	10	10.0	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1620637	1	15	6.6	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1617707	1	10	10.0	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1618856	2	21	9.5	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1617538	1	10	10.0	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1617540	1	10	10.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1626537	1	10	10.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1619592	1	10	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1617537	1	10	10.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1617541	1	10	10.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1619583	1	10	10.0	5.0	✓
TSS by Gravimetry (Seawater)	E160S	1618844	2	21	9.5	5.0	✓
Turbidity by Nephelometry	E121	1618258	1	14	7.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1622541	1	10	10.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1617539	1	10	10.0	5.0	✓
Bromide in Seawater by IC	E235S.Br	1617702	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1622540	1	20	5.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1617703	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1628650	1	10	10.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1619541	1	10	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1617536	1	10	10.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1619540	1	10	10.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1617704	1	10	10.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1617705	1	10	10.0	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1617706	1	10	10.0	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1617707	1	10	10.0	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1617538	1	10	10.0	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1617540	1	10	10.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1626537	1	10	10.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1619592	1	10	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1617537	1	10	10.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1617541	1	10	10.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1619583	1	10	10.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1622541	1	10	10.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Seawater	E100S ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TSS by Gravimetry (Seawater)	E160S ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids.
TDS by Gravimetry (Seawater)	E162S ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Seawater by IC	E235S.Br ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Seawater by IC	E235S.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Seawater by IC (Low Level)	E235S.F-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	TKN in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Dissolved Phosphorus is determined colourimetrically using a discrete analyzer after filtration through a 0.45 micron filter followed by heated persulfate digestion of the sample.
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Triple Quadrupole ICPMS.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Metals in Seawater by Triple Quad ICPMS	E466S ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Triple Quadrupole ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
Total Mercury in Seawater by CVAAS	E508S ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Seawater samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Mercury in Seawater by CVAAS	E509S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Seawater samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Water	BC MOE Lab Manual	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
BTEX by Headspace GC-MS	E611A ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Salinity in Water (calculation)	EC100S ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
F1-BTEX	EC580 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for TKN in Seawater	EP318S ALS Environmental - Vancouver	Water	APHA 4500-Norg D (mod)	Samples are digested at high temperature using Sulfuric Acid with Copper catalyst, which converts organic nitrogen sources to Ammonia, which is then quantified by the analytical method as TKN. This method is unsuitable for samples containing high levels of nitrate. If nitrate exceeds TKN concentration by ten times or more, results may be biased low.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Digestion for Dissolved Phosphorus in water	EP375 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are filtered through a 0.45 micron membrane filter and then heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Metals Seawater Filtration	EP421S ALS Environmental - Vancouver	Water	PUGET SOUND PROTOCOLS, EPA 6020A	This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by Collision/Reaction Cell ICPMS.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: **VA24C1760**	Page	: 1 of 22
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 22-Aug-2024 08:35
PO	: ----	Date Analysis Commenced	: 27-Aug-2024
C-O-C number	: ----	Issue Date	: 03-Sep-2024 17:42
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Alex Thornton	Analyst	Vancouver Metals, Burnaby, British Columbia
Anshim Anshim	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Daniel Shabestani	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Vancouver Metals, Burnaby, British Columbia
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Tracy Harley	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	Vancouver Metals, Burnaby, British Columbia

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1617699)											
VA24C1760-001	MP05-Source-1-24	Conductivity	----	E100S	2.0	µS/cm	40900	40900	0.00%	20%	----
Physical Tests (QC Lot: 1617700)											
VA24C1760-001	MP05-Source-1-24	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	103	103	0.194%	20%	----
Physical Tests (QC Lot: 1617701)											
VA24C1760-001	MP05-Source-1-24	pH	----	E108	0.10	pH units	7.96	7.97	0.126%	4%	----
Physical Tests (QC Lot: 1618258)											
VA24C1611-008	Anonymous	Turbidity	----	E121	0.10	NTU	1.74	1.96	11.9%	15%	----
Physical Tests (QC Lot: 1618856)											
VA24C1101-001	Anonymous	Solids, total dissolved [TDS]	----	E162S	10	mg/L	32900	32400	1.44%	20%	----
Physical Tests (QC Lot: 1618858)											
VA24C1760-010	MLP-03	Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	<10	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617538)											
VA24C1760-001	MP05-Source-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0020	mg/L	0.0188	0.0190	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617539)											
VA24C1760-001	MP05-Source-1-24	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0064	0.0057	0.0007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617540)											
VA24C1760-001	MP05-Source-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	0.050	mg/L	0.126	0.129	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617541)											
VA24C1760-001	MP05-Source-1-24	Phosphorus, total	7723-14-0	E372S	0.0040	mg/L	0.0192	0.0198	0.0007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617702)											
VA24C1760-001	MP05-Source-1-24	Bromide	24959-67-9	E235S.Br	5.0	mg/L	52.5	53.5	1.86%	20%	----
Anions and Nutrients (QC Lot: 1617703)											
VA24C1760-001	MP05-Source-1-24	Chloride	16887-00-6	E235S.Cl	50	mg/L	15100	15400	2.20%	20%	----
Anions and Nutrients (QC Lot: 1617704)											
VA24C1760-001	MP05-Source-1-24	Fluoride	16984-48-8	E235S.F-L	0.20	mg/L	0.85	0.88	0.03	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617705)											
VA24C1760-001	MP05-Source-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617706)											
VA24C1760-001	MP05-Source-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617707)											

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Anions and Nutrients (QC Lot: 1617707) - continued											
VA24C1760-001	MP05-Source-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3.0	mg/L	1960	1990	1.65%	20%	----
Organic / Inorganic Carbon (QC Lot: 1617536)											
VA24C1760-001	MP05-Source-1-24	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.08	0.94	0.14	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1617537)											
VA24C1760-001	MP05-Source-1-24	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	1.01	0.93	0.08	Diff <2x LOR	----
Total Metals (QC Lot: 1619583)											
VA24C1760-001	MP05-Source-1-24	Silicon, total	7440-21-3	E468S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	8380	8320	0.628%	20%	----
Total Metals (QC Lot: 1619592)											
VA24C1760-001	MP05-Source-1-24	Aluminum, total	7429-90-5	E466S	0.0050	mg/L	0.0122	0.0132	0.0009	Diff <2x LOR	----
		Antimony, total	7440-36-0	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E466S	0.00040	mg/L	0.00313	0.00333	0.00020	Diff <2x LOR	----
		Barium, total	7440-39-3	E466S	0.0010	mg/L	0.0083	0.0085	0.0002	Diff <2x LOR	----
		Beryllium, total	7440-41-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E466S	0.30	mg/L	3.43	3.73	8.43%	20%	----
		Cadmium, total	7440-43-9	E466S	0.000020	mg/L	0.000026	0.000032	0.000006	Diff <2x LOR	----
		Calcium, total	7440-70-2	E466S	1.0	mg/L	355	360	1.39%	20%	----
		Cesium, total	7440-46-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E466S	0.000050	mg/L	0.000059	0.000066	0.000006	Diff <2x LOR	----
		Copper, total	7440-50-8	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Gallium, total	7440-55-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E466S	0.010	mg/L	0.019	0.019	0.0003	Diff <2x LOR	----
		Lead, total	7439-92-1	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E466S	0.020	mg/L	0.149	0.164	0.015	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E466S	1.0	mg/L	1000	998	0.297%	20%	----
		Manganese, total	7439-96-5	E466S	0.00020	mg/L	0.00113	0.00112	0.000002	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E466S	0.00010	mg/L	0.00846	0.00823	2.78%	20%	----
		Nickel, total	7440-02-0	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E466S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E466S	1.0	mg/L	285	296	3.84%	20%	----
		Rhenium, total	7440-15-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E466S	0.0050	mg/L	0.0851	0.0861	1.20%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1619592) - continued											
VA24C1760-001	MP05-Source-1-24	Selenium, total	7782-49-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, total	7440-22-4	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, total	7440-24-6	E466S	0.010	mg/L	5.69	5.69	0.0582%	20%	----
		Sulfur, total	7704-34-9	E466S	5.0	mg/L	745	755	1.40%	20%	----
		Tellurium, total	13494-80-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E466S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E466S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E466S	0.000050	mg/L	0.00289	0.00291	0.541%	20%	----
		Vanadium, total	7440-62-2	E466S	0.00050	mg/L	0.00094	0.00093	0.00001	Diff <2x LOR	----
		Yttrium, total	7440-65-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E466S	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1626537)											
VA24C1760-001	MP05-Source-1-24	Mercury, total	7439-97-6	E508S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1619540)											
VA24C1760-001	MP05-Source-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	8340	7830	6.39%	20%	----
Dissolved Metals (QC Lot: 1619541)											
VA24C1760-001	MP05-Source-1-24	Aluminum, dissolved	7429-90-5	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E465S	0.00040	mg/L	0.00333	0.00324	0.00009	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E465S	0.0010	mg/L	0.0089	0.0081	0.0008	Diff <2x LOR	----
		Beryllium, dissolved	7440-41-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E465S	0.30	mg/L	3.50	3.44	1.90%	20%	----
		Cadmium, dissolved	7440-43-9	E465S	0.000020	mg/L	0.000024	<0.000020	0.000004	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E465S	1.0	mg/L	358	346	3.38%	20%	----
		Cesium, dissolved	7440-46-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E465S	0.000050	mg/L	0.000062	0.000054	0.000007	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Dissolved Metals (QC Lot: 1619541) - continued											
VA24C1760-001	MP05-Source-1-24	Gallium, dissolved	7440-55-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E465S	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E465S	0.020	mg/L	0.157	0.148	0.009	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E465S	1.0	mg/L	1020	959	6.19%	20%	----
		Manganese, dissolved	7439-96-5	E465S	0.00010	mg/L	0.00083	0.00077	0.00006	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E465S	0.00010	mg/L	0.00866	0.00796	8.42%	20%	----
		Nickel, dissolved	7440-02-0	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E465S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E465S	1.0	mg/L	291	275	5.71%	20%	----
		Rhenium, dissolved	7440-15-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E465S	0.0050	mg/L	0.0885	0.0826	6.91%	20%	----
		Selenium, dissolved	7782-49-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E465S	0.010	mg/L	5.88	5.43	7.82%	20%	----
		Sulfur, dissolved	7704-34-9	E465S	5.0	mg/L	754	741	1.72%	20%	----
		Tellurium, dissolved	13494-80-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E465S	0.000050	mg/L	0.00296	0.00269	9.58%	20%	----
		Vanadium, dissolved	7440-62-2	E465S	0.00050	mg/L	0.00093	0.00085	0.00008	Diff <2x LOR	----
		Yttrium, dissolved	7440-65-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1628650)											
VA24C1760-001	MP05-Source-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000100	mg/L	<0.0000100	<0.0000100	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1630275)											
VA24C1760-010	MLP-03	Mercury, dissolved	7439-97-6	E509S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1622540)											
VA24C1017-021	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Volatile Organic Compounds (QC Lot: 1622540) - continued											
VA24C1017-021	Anonymous	Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1622541)											
VA24C1110-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----
		VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1617699)						
Conductivity	----	E100S	2	µS/cm	<2.0	----
Physical Tests (QCLot: 1617700)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1618258)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1618844)						
Solids, total suspended [TSS]	----	E160S	2	mg/L	<2.0	----
Physical Tests (QCLot: 1618845)						
Solids, total suspended [TSS]	----	E160S	2	mg/L	<2.0	----
Physical Tests (QCLot: 1618856)						
Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	----
Physical Tests (QCLot: 1618858)						
Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	----
Anions and Nutrients (QCLot: 1617538)						
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1617539)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1617540)						
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1617541)						
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	<0.0040	----
Anions and Nutrients (QCLot: 1617702)						
Bromide	24959-67-9	E235S.Br	5	mg/L	<5.0	----
Anions and Nutrients (QCLot: 1617703)						
Chloride	16887-00-6	E235S.Cl	50	mg/L	<50	----
Anions and Nutrients (QCLot: 1617704)						
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	<0.20	----
Anions and Nutrients (QCLot: 1617705)						
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1617706)						
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1617707)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1617707) - continued						
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	<3.0	----
Organic / Inorganic Carbon (QCLot: 1617536)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1617537)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1619583)						
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	<1.0	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	<2.5	----
Total Metals (QCLot: 1619592)						
Aluminum, total	7429-90-5	E466S	0.005	mg/L	<0.0050	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	<0.0010	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	<0.00040	----
Barium, total	7440-39-3	E466S	0.001	mg/L	<0.0010	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	<0.00050	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	<0.00050	----
Boron, total	7440-42-8	E466S	0.3	mg/L	<0.30	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	<0.000020	----
Calcium, total	7440-70-2	E466S	1	mg/L	<1.0	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	<0.00050	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	<0.000050	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	<0.00050	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E466S	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	<0.00010	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	<0.020	----
Magnesium, total	7439-95-4	E466S	1	mg/L	<1.0	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	<0.00020	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	<0.00010	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E466S	1	mg/L	<1.0	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	<0.00050	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	<0.0050	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	<0.00050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1619592) - continued						
Silver, total	7440-22-4	E466S	0.0001	mg/L	<0.00010	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	<0.010	----
Sulfur, total	7704-34-9	E466S	5	mg/L	<5.0	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	<0.00050	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	<0.000050	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	<0.00050	----
Tin, total	7440-31-5	E466S	0.001	mg/L	<0.0010	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	<0.0050	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	<0.0010	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	<0.000050	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	<0.00050	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	<0.00050	----
Total Metals (QCLot: 1626537)						
Mercury, total	7439-97-6	E508S	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1619540)						
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	<1.0	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	<2.5	----
Dissolved Metals (QCLot: 1619541)						
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	<0.0050	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	<0.0010	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	<0.00040	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	<0.0010	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	<0.00050	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	<0.00050	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	<0.30	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	<0.000020	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	<1.0	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	<0.00050	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	<0.000050	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	<0.00050	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	<0.00050	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	<0.010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1619541) - continued						
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	<0.00010	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	<0.020	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	<1.0	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	<0.00010	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	<1.0	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	<0.00050	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	<0.0050	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	<0.00050	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	<0.00010	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	<0.010	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	<5.0	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	<0.00050	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	<0.000050	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	<0.00050	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	<0.0010	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	<0.0050	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	<0.0010	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	<0.000050	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	<0.00050	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	<0.00050	----
Dissolved Metals (QCLot: 1628650)						
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1630275)						
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1622540)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1622540) - continued						
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1620638)						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
Hydrocarbons (QCLot: 1620640)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Hydrocarbons (QCLot: 1622541)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1620637)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1617699)									
Conductivity	----	E100S	2	µS/cm	147 µS/cm	98.5	80.0	120	----
Physical Tests (QCLot: 1617700)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	98.8	85.0	115	----
Physical Tests (QCLot: 1617701)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1618258)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Physical Tests (QCLot: 1618844)									
Solids, total suspended [TSS]	----	E160S	2	mg/L	150 mg/L	98.0	85.0	115	----
Physical Tests (QCLot: 1618845)									
Solids, total suspended [TSS]	----	E160S	2	mg/L	150 mg/L	98.7	85.0	115	----
Physical Tests (QCLot: 1618856)									
Solids, total dissolved [TDS]	----	E162S	10	mg/L	1000 mg/L	111	85.0	115	----
Physical Tests (QCLot: 1618858)									
Solids, total dissolved [TDS]	----	E162S	10	mg/L	1000 mg/L	111	85.0	115	----
Anions and Nutrients (QCLot: 1617538)									
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	0.05 mg/L	94.8	80.0	120	----
Anions and Nutrients (QCLot: 1617539)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1617540)									
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	4 mg/L	111	75.0	125	----
Anions and Nutrients (QCLot: 1617541)									
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	0.05 mg/L	99.1	80.0	120	----
Anions and Nutrients (QCLot: 1617702)									
Bromide	24959-67-9	E235S.Br	5	mg/L	0.5 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 1617703)									
Chloride	16887-00-6	E235S.Cl	50	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1617704)									
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	1 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1617705)									
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	2.5 mg/L	101	90.0	110	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1617706)									
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	0.5 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1617707)									
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	100 mg/L	102	90.0	110	----
Organic / Inorganic Carbon (QCLot: 1617536)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	97.2	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1617537)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	99.1	80.0	120	----
Total Metals (QCLot: 1619583)									
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	10 mg/L	103	80.0	120	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	50 mg/L	103	80.0	120	----
Total Metals (QCLot: 1619592)									
Aluminum, total	7429-90-5	E466S	0.005	mg/L	2 mg/L	96.4	80.0	120	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	1 mg/L	102	80.0	120	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	1 mg/L	99.2	80.0	120	----
Barium, total	7440-39-3	E466S	0.001	mg/L	0.25 mg/L	98.1	80.0	120	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	0.1 mg/L	100	80.0	120	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	1 mg/L	99.3	80.0	120	----
Boron, total	7440-42-8	E466S	0.3	mg/L	1 mg/L	96.8	80.0	120	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	0.1 mg/L	104	80.0	120	----
Calcium, total	7440-70-2	E466S	1	mg/L	50 mg/L	103	80.0	120	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	0.05 mg/L	105	80.0	120	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	0.25 mg/L	94.6	80.0	120	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	0.25 mg/L	92.1	80.0	120	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	0.25 mg/L	93.9	80.0	120	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	0.25 mg/L	100.0	80.0	120	----
Iron, total	7439-89-6	E466S	0.01	mg/L	1 mg/L	95.5	80.0	120	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	0.5 mg/L	98.6	80.0	120	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	0.25 mg/L	104	80.0	120	----
Magnesium, total	7439-95-4	E466S	1	mg/L	50 mg/L	102	80.0	120	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	0.25 mg/L	94.2	80.0	120	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	0.25 mg/L	96.2	80.0	120	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	0.5 mg/L	94.1	80.0	120	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	10 mg/L	101	80.0	120	----
Potassium, total	7440-09-7	E466S	1	mg/L	50 mg/L	92.2	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1619592) - continued									
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	0.1 mg/L	104	80.0	120	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	0.1 mg/L	95.9	80.0	120	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	1 mg/L	99.9	80.0	120	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	0.1 mg/L	95.2	80.0	120	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	0.25 mg/L	93.2	80.0	120	----
Sulfur, total	7704-34-9	E466S	5	mg/L	50 mg/L	105	80.0	120	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	0.1 mg/L	105	80.0	120	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	1 mg/L	96.4	80.0	120	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	0.1 mg/L	99.7	80.0	120	----
Tin, total	7440-31-5	E466S	0.001	mg/L	0.5 mg/L	103	80.0	120	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	0.25 mg/L	91.5	80.0	120	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	0.1 mg/L	97.7	80.0	120	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	0.005 mg/L	103	80.0	120	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	0.5 mg/L	92.6	80.0	120	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	0.1 mg/L	95.6	80.0	120	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	0.5 mg/L	93.4	80.0	120	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	0.1 mg/L	89.1	80.0	120	----
Total Metals (QCLot: 1626537)									
Mercury, total	7439-97-6	E508S	0.000005	mg/L	0 mg/L	97.0	80.0	120	----
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	10 mg/L	107	80.0	120	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	50 mg/L	106	80.0	120	----
Dissolved Metals (QCLot: 1619541)									
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	2 mg/L	97.8	80.0	120	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	1 mg/L	106	80.0	120	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	1 mg/L	106	80.0	120	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	0.25 mg/L	102	80.0	120	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	0.1 mg/L	98.6	80.0	120	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	1 mg/L	103	80.0	120	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	1 mg/L	95.5	80.0	120	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	0.1 mg/L	105	80.0	120	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	50 mg/L	100	80.0	120	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	0.05 mg/L	107	80.0	120	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	0.25 mg/L	99.9	80.0	120	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	0.25 mg/L	97.0	80.0	120	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	0.25 mg/L	96.8	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1619541) - continued									
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	0.25 mg/L	103	80.0	120	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	1 mg/L	98.2	80.0	120	----
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	0.5 mg/L	101	80.0	120	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	0.25 mg/L	103	80.0	120	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	50 mg/L	104	80.0	120	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	0.25 mg/L	96.6	80.0	120	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	0.25 mg/L	99.4	80.0	120	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	0.5 mg/L	97.8	80.0	120	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	10 mg/L	105	80.0	120	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	50 mg/L	96.9	80.0	120	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	0.1 mg/L	105	80.0	120	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	0.1 mg/L	98.5	80.0	120	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	1 mg/L	104	80.0	120	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	0.1 mg/L	95.8	80.0	120	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	0.25 mg/L	99.3	80.0	120	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	50 mg/L	109	80.0	120	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	0.1 mg/L	103	80.0	120	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	1 mg/L	97.4	80.0	120	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	0.1 mg/L	101	80.0	120	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	0.5 mg/L	104	80.0	120	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	0.25 mg/L	96.3	80.0	120	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	0.1 mg/L	98.8	80.0	120	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	0.005 mg/L	105	80.0	120	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	0.5 mg/L	96.6	80.0	120	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	0.1 mg/L	98.7	80.0	120	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	0.5 mg/L	99.1	80.0	120	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	0.1 mg/L	93.3	80.0	120	----
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	0 mg/L	94.2	80.0	120	----
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	0 mg/L	107	80.0	120	----
Volatile Organic Compounds (QCLot: 1622540)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	99.0	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	91.7	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	103	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	93.7	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	101	70.0	130	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report: Spike: Target Concentration	Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Volatile Organic Compounds (QCLot: 1622540) - continued									
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	107	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	94.8	70.0	130	----
Hydrocarbons (QCLot: 1620638)									
EPH (C10-C19)	----	E601A	250	µg/L	6490 µg/L	92.8	70.0	130	----
EPH (C19-C32)	----	E601A	250	µg/L	3360 µg/L	95.6	70.0	130	----
Hydrocarbons (QCLot: 1620640)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	104	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	99.4	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	106	70.0	130	----
Hydrocarbons (QCLot: 1622541)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	102	70.0	130	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	98.9	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1620637)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	113	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	65.1	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	102	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	109	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	118	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	107	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	118	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	107	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	116	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	99.1	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	99.6	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	111	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	73.9	60.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1617538)										
VA24C1760-002	MP05-North-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0459 mg/L	0.05 mg/L	91.9	70.0	130	----
Anions and Nutrients (QCLot: 1617539)										
VA24C1760-002	MP05-North-1-24	Ammonia, total (as N)	7664-41-7	E298	0.101 mg/L	0.1 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1617540)										
VA24C1760-002	MP05-North-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	2.32 mg/L	2.5 mg/L	92.6	70.0	130	----
Anions and Nutrients (QCLot: 1617541)										
VA24C1760-002	MP05-North-1-24	Phosphorus, total	7723-14-0	E372S	0.0898 mg/L	0.1 mg/L	89.8	70.0	130	----
Anions and Nutrients (QCLot: 1617702)										
VA24C1760-002	MP05-North-1-24	Bromide	24959-67-9	E235S.Br	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1617703)										
VA24C1760-002	MP05-North-1-24	Chloride	16887-00-6	E235S.Cl	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1617704)										
VA24C1760-002	MP05-North-1-24	Fluoride	16984-48-8	E235S.F-L	9.85 mg/L	10 mg/L	98.5	75.0	125	----
Anions and Nutrients (QCLot: 1617705)										
VA24C1760-002	MP05-North-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	7.07 mg/L	7.5 mg/L	94.3	75.0	125	----
Anions and Nutrients (QCLot: 1617706)										
VA24C1760-002	MP05-North-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	4.82 mg/L	5 mg/L	96.4	75.0	125	----
Anions and Nutrients (QCLot: 1617707)										
VA24C1760-002	MP05-North-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1617536)										
VA24C1760-002	MP05-North-1-24	Carbon, dissolved organic [DOC]	----	E358-L	5.00 mg/L	5 mg/L	100	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1617537)										
VA24C1760-002	MP05-North-1-24	Carbon, total organic [TOC]	----	E355-L	4.87 mg/L	5 mg/L	97.4	70.0	130	----
Total Metals (QCLot: 1619583)										
VA24C1760-002	MP05-North-1-24	Silicon, total	7440-21-3	E468S.NaSi	186 mg/L	200 mg/L	93.0	70.0	130	----
		Sodium, total	7440-23-5	E468S.NaSi	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1619592)										
VA24C1760-002	MP05-North-1-24	Aluminum, total	7429-90-5	E466S	3.45 mg/L	4 mg/L	86.2	70.0	130	----
		Antimony, total	7440-36-0	E466S	0.388 mg/L	0.4 mg/L	96.9	70.0	130	----
		Arsenic, total	7440-38-2	E466S	0.401 mg/L	0.4 mg/L	100	70.0	130	----
		Barium, total	7440-39-3	E466S	0.392 mg/L	0.4 mg/L	97.9	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1619592) - continued										
VA24C1760-002	MP05-North-1-24	Beryllium, total	7440-41-7	E466S	0.760 mg/L	0.8 mg/L	95.0	70.0	130	----
		Bismuth, total	7440-69-9	E466S	0.182 mg/L	0.2 mg/L	91.1	70.0	130	----
		Boron, total	7440-42-8	E466S	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E466S	0.0782 mg/L	0.08 mg/L	97.8	70.0	130	----
		Calcium, total	7440-70-2	E466S	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E466S	0.204 mg/L	0.2 mg/L	102	70.0	130	----
		Chromium, total	7440-47-3	E466S	0.732 mg/L	0.8 mg/L	91.4	70.0	130	----
		Cobalt, total	7440-48-4	E466S	0.336 mg/L	0.4 mg/L	83.9	70.0	130	----
		Copper, total	7440-50-8	E466S	0.323 mg/L	0.4 mg/L	80.7	70.0	130	----
		Gallium, total	7440-55-3	E466S	0.0549 mg/L	0.05 mg/L	110	70.0	130	----
		Iron, total	7439-89-6	E466S	34.5 mg/L	40 mg/L	86.2	70.0	130	----
		Lead, total	7439-92-1	E466S	0.371 mg/L	0.4 mg/L	92.8	70.0	130	----
		Lithium, total	7439-93-2	E466S	2.30 mg/L	2 mg/L	115	70.0	130	----
		Magnesium, total	7439-95-4	E466S	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E466S	0.355 mg/L	0.4 mg/L	88.8	70.0	130	----
		Molybdenum, total	7439-98-7	E466S	0.378 mg/L	0.4 mg/L	94.4	70.0	130	----
		Nickel, total	7440-02-0	E466S	0.654 mg/L	0.8 mg/L	81.7	70.0	130	----
		Phosphorus, total	7723-14-0	E466S	206 mg/L	200 mg/L	103	70.0	130	----
		Potassium, total	7440-09-7	E466S	ND mg/L	----	ND	70.0	130	----
		Rhenium, total	7440-15-5	E466S	0.0507 mg/L	0.05 mg/L	101	70.0	130	----
		Rubidium, total	7440-17-7	E466S	0.368 mg/L	0.4 mg/L	92.1	70.0	130	----
		Selenium, total	7782-49-2	E466S	0.860 mg/L	0.8 mg/L	108	70.0	130	----
		Silver, total	7440-22-4	E466S	0.0744 mg/L	0.08 mg/L	92.9	70.0	130	----
		Strontium, total	7440-24-6	E466S	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E466S	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E466S	0.776 mg/L	0.8 mg/L	97.0	70.0	130	----
		Thallium, total	7440-28-0	E466S	0.0738 mg/L	0.08 mg/L	92.2	70.0	130	----
		Thorium, total	7440-29-1	E466S	0.342 mg/L	0.4 mg/L	85.4	70.0	130	----
		Tin, total	7440-31-5	E466S	0.396 mg/L	0.4 mg/L	98.9	70.0	130	----
		Titanium, total	7440-32-6	E466S	0.760 mg/L	0.8 mg/L	95.0	70.0	130	----
		Tungsten, total	7440-33-7	E466S	0.372 mg/L	0.4 mg/L	93.0	70.0	130	----
		Uranium, total	7440-61-1	E466S	0.0853 mg/L	0.08 mg/L	106	70.0	130	----
		Vanadium, total	7440-62-2	E466S	1.73 mg/L	2 mg/L	86.4	70.0	130	----
		Yttrium, total	7440-65-5	E466S	0.0483 mg/L	0.05 mg/L	96.7	70.0	130	----
		Zinc, total	7440-66-6	E466S	6.69 mg/L	8 mg/L	83.7	70.0	130	----
		Zirconium, total	7440-67-7	E466S	0.695 mg/L	0.8 mg/L	86.9	70.0	130	----
Total Metals (QCLot: 1626537)										
VA24C1760-002	MP05-North-1-24	Mercury, total	7439-97-6	E508S	0.0000966 mg/L	0 mg/L	96.6	70.0	130	----
Dissolved Metals (QCLot: 1619540)										
VA24C1760-002	MP05-North-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	187 mg/L	200 mg/L	93.6	70.0	130	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	ND mg/L	----	ND	70.0	130	----
Dissolved Metals (QCLot: 1619541)										
VA24C1760-002	MP05-North-1-24	Aluminum, dissolved	7429-90-5	E465S	3.58 mg/L	4 mg/L	89.6	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1619541) - continued										
VA24C1760-002	MP05-North-1-24	Antimony, dissolved	7440-36-0	E465S	0.385 mg/L	0.4 mg/L	96.2	70.0	130	----
		Arsenic, dissolved	7440-38-2	E465S	0.410 mg/L	0.4 mg/L	102	70.0	130	----
		Barium, dissolved	7440-39-3	E465S	0.391 mg/L	0.4 mg/L	97.8	70.0	130	----
		Beryllium, dissolved	7440-41-7	E465S	0.735 mg/L	0.8 mg/L	91.9	70.0	130	----
		Bismuth, dissolved	7440-69-9	E465S	0.185 mg/L	0.2 mg/L	92.5	70.0	130	----
		Boron, dissolved	7440-42-8	E465S	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E465S	0.0783 mg/L	0.08 mg/L	97.8	70.0	130	----
		Calcium, dissolved	7440-70-2	E465S	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E465S	0.204 mg/L	0.2 mg/L	102	70.0	130	----
		Chromium, dissolved	7440-47-3	E465S	0.802 mg/L	0.8 mg/L	100	70.0	130	----
		Cobalt, dissolved	7440-48-4	E465S	0.368 mg/L	0.4 mg/L	92.0	70.0	130	----
		Copper, dissolved	7440-50-8	E465S	0.350 mg/L	0.4 mg/L	87.5	70.0	130	----
		Gallium, dissolved	7440-55-3	E465S	0.0543 mg/L	0.05 mg/L	109	70.0	130	----
		Iron, dissolved	7439-89-6	E465S	37.5 mg/L	40 mg/L	93.8	70.0	130	----
		Lead, dissolved	7439-92-1	E465S	0.372 mg/L	0.4 mg/L	93.1	70.0	130	----
		Lithium, dissolved	7439-93-2	E465S	2.18 mg/L	2 mg/L	109	70.0	130	----
		Magnesium, dissolved	7439-95-4	E465S	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E465S	0.381 mg/L	0.4 mg/L	95.3	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E465S	0.411 mg/L	0.4 mg/L	103	70.0	130	----
		Nickel, dissolved	7440-02-0	E465S	0.705 mg/L	0.8 mg/L	88.2	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E465S	205 mg/L	200 mg/L	103	70.0	130	----
		Potassium, dissolved	7440-09-7	E465S	ND mg/L	----	ND	70.0	130	----
		Rhenium, dissolved	7440-15-5	E465S	0.0501 mg/L	0.05 mg/L	100	70.0	130	----
		Rubidium, dissolved	7440-17-7	E465S	0.402 mg/L	0.4 mg/L	100	70.0	130	----
		Selenium, dissolved	7782-49-2	E465S	0.865 mg/L	0.8 mg/L	108	70.0	130	----
		Silver, dissolved	7440-22-4	E465S	0.0721 mg/L	0.08 mg/L	90.1	70.0	130	----
		Strontium, dissolved	7440-24-6	E465S	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E465S	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E465S	0.751 mg/L	0.8 mg/L	93.9	70.0	130	----
		Thallium, dissolved	7440-28-0	E465S	0.0728 mg/L	0.08 mg/L	91.0	70.0	130	----
		Thorium, dissolved	7440-29-1	E465S	0.329 mg/L	0.4 mg/L	82.2	70.0	130	----
		Tin, dissolved	7440-31-5	E465S	0.389 mg/L	0.4 mg/L	97.3	70.0	130	----
		Titanium, dissolved	7440-32-6	E465S	0.766 mg/L	0.8 mg/L	95.7	70.0	130	----
		Tungsten, dissolved	7440-33-7	E465S	0.377 mg/L	0.4 mg/L	94.2	70.0	130	----
		Uranium, dissolved	7440-61-1	E465S	0.0855 mg/L	0.08 mg/L	107	70.0	130	----
		Vanadium, dissolved	7440-62-2	E465S	1.86 mg/L	2 mg/L	93.0	70.0	130	----
		Yttrium, dissolved	7440-65-5	E465S	0.0501 mg/L	0.05 mg/L	100	70.0	130	----
		Zinc, dissolved	7440-66-6	E465S	7.29 mg/L	8 mg/L	91.1	70.0	130	----
		Zirconium, dissolved	7440-67-7	E465S	0.693 mg/L	0.8 mg/L	86.6	70.0	130	----
Dissolved Metals (QCLot: 1628650)										
VA24C1760-002	MP05-North-1-24	Mercury, dissolved	7439-97-6	E509S	0.000210 mg/L	0 mg/L	105	70.0	130	----
Volatile Organic Compounds (QCLot: 1622540)										
VA24C1017-022	Anonymous	Benzene	71-43-2	E611A	96.5 µg/L	100 µg/L	96.5	60.0	140	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1622540) - continued										
VA24C1017-022	Anonymous	Ethylbenzene	100-41-4	E611A	90.3 µg/L	100 µg/L	90.3	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	105 µg/L	100 µg/L	105	60.0	140	----
		Styrene	100-42-5	E611A	92.5 µg/L	100 µg/L	92.5	60.0	140	----
		Toluene	108-88-3	E611A	99.0 µg/L	100 µg/L	99.0	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	222 µg/L	200 µg/L	111	60.0	140	----
		Xylene, o-	95-47-6	E611A	99.6 µg/L	100 µg/L	99.6	60.0	140	----
Hydrocarbons (QCLot: 1622541)										
VA24C1269-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5670 µg/L	6310 µg/L	89.8	60.0	140	----
		VHw (C6-C10)	----	E581.VH+F1	5510 µg/L	6310 µg/L	87.3	60.0	140	----

Chain of Custody (COC) / Analytical Request Form

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WO #5

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Work Order Reference
VA24C1760

Telephone : +1 604 253 4188

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	~~Elaine Irving~~/Connor Pettem
Phone:	1-604-297-2030/1-604-296-4200
	Company address below will appear on the final report
Street:	840 Howe Street, 10th Floor
City/Province:	Vancouver, BC
Postal Code:	V6Z 2M1
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax ~~elaine.irving@wsp.com~~

Email 2 connor.pettem@wsp.com

Email 3 trish.tomliens@wsp.com

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax

Email 2

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.

Additional fees may apply to rush requests on weekends, st

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, please conta

Project Information

ALS Account # / Quote #:

Job #: GOLD100-011

PO / AFE: CA0026317.6821/86000/03

LSD:

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#

Major/Minor Code: Routing Code:

Requisitioner:

Location:

ALS Lab Work Order # (ALS use only): 1760

ALS Contact: Amber Springer Sampler: TT/MR/DV

Analysis Reque

Indicate Filtered (F), Preserved (P) or Filtered and Pr

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	General (alkalinity, turbidity, cond.)	Anions, TOC, DOC, Hard., Salinity	pH, TSS, TDS, Ammonia, TKN)	Dissolved Metals F/P	Total Metals P	Dissolved Hg F/P	Total Hg P	Nutrients (including total phosphorus) P	Petroleum hydrocarbons (MTBE) P	Petroleum hydrocarbons (BTEX,F1) P	Hydrocarbons (LEPH/HEPH)	PAH, F2-F4			SAMPLES ON HOLD	EXTENDED STORAGE REQU	SUSPECTED HAZARD (see n
	MP05-Source-1-24	18-Aug-24	15:16	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R					
	MP05-North-1-24		15:25	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R					
	MP05-ENE-1-24		15:21	Seawater	6	R	R	R	R	R	R	R	R									
	MP05-WNW-1-24		15:09	Seawater	6	R	R	R	R	R	R	R	R			✓						
	MP06-Source-2-24		14:43	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R					
	MP06-North-2-24		14:50	Seawater	6	R	R	R	R	R	R	R	R									
	MP06-ENE-2-24		14:55	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R					
	MP06-WNW-2-24		15:02	Seawater	6	R	R	R	R	R	R	R	R									
	DUP-E		—	Seawater	6	R	R	R	R	R	R	R	R									
	MLP-03	↓	—	Seawater	6	R	R	R	R	R	R	R	R									

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System?
☐ YES ☑ NO

Are samples for human consumption/ use?
☐ YES ☑ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

Refer to quote (GOLD100-~~GPC~~Oil) for all analyses.

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☑ ICE ☑ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☑ N/A Sample Custody Seals Intact: ☐ YES ☑ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
	.			6	3	2	3

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
Patricia Tomliens	20 Aug 24	11:00

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
JC	22-8-24	835am

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

CERTIFICATE OF ANALYSIS

Work Order	: **VA24B9271**	Page	: 1 of 15
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 02-Aug-2024 08:35
PO	: ----	Date Analysis Commenced	: 03-Aug-2024
C-O-C number	: ----	Issue Date	: 12-Aug-2024 17:06
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Anshim Anshim	Lab Assistant	Metals, Burnaby, British Columbia
Christopher Li	Analyst	Metals, Burnaby, British Columbia
Daniel Shabestani	Lab Assistant	Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Marianne Jensen	Analyst- General	Inorganics, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Sam Silveira	Analyst	Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.
Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
psu	practical salinity units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

Sample MP05-ENE-1-24 : EPH bottles and VOC vials not received at laboratory, but requested on Chain of Custody / analytical request form; subsample cannot be obtained from other containers to meet request. The requested analysis cannot be performed.
Sample MP05-North-1-24:- Extra EPH bottles and VOC vials received.Containers put on hold.Please contact ALS PM if you want to add analysis.

Qualifiers

Qualifier	*Description*
DLCI	*Detection Limit Raised: Chromatographic interference due to co-elution.*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*
DLQ	*Detection Limit raised due to co-eluting interference. Mass Spectrometry qualifier ion ratio did not meet acceptance criteria.*

RRV	*Reported result verified by repeat analysis.*

Analytical Results

Sub-Matrix: Seawater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	30-Jul-2024 14:35	30-Jul-2024 15:05	30-Jul-2024 14:55	30-Jul-2024 15:45	30-Jul-2024 13:31
						VA24B9271-001	VA24B9271-002	VA24B9271-003	VA24B9271-004	VA24B9271-005
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		93.9	92.5	93.1	94.6	94.4
Conductivity	----	E100S/VA	2.0	µS/cm		34300	34600	35200	34400	34800
pH	----	E108/VA	0.10	pH units		8.00	8.00	8.00	8.01	8.01
Salinity	----	EC100S/VA	1.0	psu		22.2	22.5	22.9	22.3	22.6
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L		26900	26900	27900	26700	27000
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L		2.1	2.6	5.3	2.5	3.8
Turbidity	----	E121/VA	0.10	NTU		0.71	0.39	0.96	0.35	0.32
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		4160	3890	4340	4170	4240
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L		4330	4230	4500	4310	4540
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		<0.0050	<0.0050	0.0112	0.0060	<0.0050
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L		40.3	41.4	42.3	41.5	41.6
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L		11800	12300	12500	12300	12300
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L		0.52	0.54	0.57	0.55	0.56
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L		0.076	0.087	0.080	0.073	0.080
Nitrate (as N)	14797-55-8	E235S.NO3-T/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Nitrite (as N)	14797-65-0	E235S.NO2-L/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L		0.0174	0.0155	0.0185	0.0159	0.0159
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/VA	3.0	mg/L		1660	1670	1720	1660	1680
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L		1.14	0.94	<0.50	0.89	1.02
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		0.89	0.82	0.85	1.09	0.86
Total Metals										
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L		0.0089	0.0076	0.0141	0.0077	0.0127
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L		0.00266	0.00306	0.00306	0.00292	0.00323
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L		0.0075	0.0074	0.0076	0.0077	0.0079
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	30-Jul-2024 14:35	30-Jul-2024 15:05	30-Jul-2024 14:55	30-Jul-2024 15:45	30-Jul-2024 13:31
						VA24B9271-001	VA24B9271-002	VA24B9271-003	VA24B9271-004	VA24B9271-005
						Result	Result	Result	Result	Result
Total Metals										
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total	7440-42-8	E466S/VA	0.30	mg/L		2.75	3.12	3.21	3.27	3.27
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L		<0.000020	0.000030	0.000027	<0.000020	0.000022
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L		283	292	298	288	296
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L		0.000050	0.000054	0.000061	0.000052	0.000056
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L		0.00958	<0.00050	0.00563	0.00328	0.0201
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, total	7439-89-6	E466S/VA	0.010	mg/L		0.013	<0.010	0.022	0.010	0.018
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	0.00010
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L		0.115	0.121	0.128	0.128	0.127
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L		879	850	911	873	923
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L		0.00076	0.00072	0.00098	0.00076	0.00095
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L		0.00638	0.00659	0.00686	0.00664	0.00677
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L		254	253	264	254	266
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L		0.0656	0.0657	0.0689	0.0675	0.0681
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, total	7440-21-3	E468S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, total	7440-23-5	E468S.NaSi/VA	2.5	mg/L		6640	6600	6740	6710	6660
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L		4.39	4.42	4.66	4.55	4.63
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L		572	593	606	591	596
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	30-Jul-2024 14:35	30-Jul-2024 15:05	30-Jul-2024 14:55	30-Jul-2024 15:45	30-Jul-2024 13:31
						VA24B9271-001	VA24B9271-002	VA24B9271-003	VA24B9271-004	VA24B9271-005
						Result	Result	Result	Result	Result
Total Metals										
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L		0.00230	0.00214	0.00226	0.00228	0.00231
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L		0.00074	0.00076	0.00085	0.00081	0.00078
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L		0.00282	0.00300	0.00308	0.00308	0.00297
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L		0.0074	0.0073	0.0073	0.0074	0.0076
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L		2.69	3.01	2.98	3.07	3.08
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L		<0.000020	0.000024	<0.000020	0.000022	0.000020
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L		279	274	289	281	286
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	0.00104
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L		0.108	0.113	0.120	0.117	0.120
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L		842	778	880	843	856
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L		0.00054	0.00043	0.00048	0.00046	0.00060
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L		0.00648	0.00601	0.00640	0.00624	0.00624

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	30-Jul-2024 14:35	30-Jul-2024 15:05	30-Jul-2024 14:55	30-Jul-2024 15:45	30-Jul-2024 13:31
						VA24B9271-001	VA24B9271-002	VA24B9271-003	VA24B9271-004	VA24B9271-005
						Result	Result	Result	Result	Result
Dissolved Metals										
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L		242	232	255	246	251
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L		0.0649	0.0606	0.0632	0.0619	0.0621
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, dissolved	7440-21-3	E469S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, dissolved	7440-23-5	E469S.NaSi/VA	2.5	mg/L		7020	6970	6890	6820	6990
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L		4.43	4.06	4.27	4.20	4.24
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L		586	548	614	585	577
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L		0.00222	0.00213	0.00227	0.00219	0.00223
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L		0.00078	0.00071	0.00073	0.00071	0.00075
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L		0.0012	<0.0010	<0.0010	<0.0010	0.0011
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421S/VA	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	30-Jul-2024 14:35	30-Jul-2024 15:05	30-Jul-2024 14:55	30-Jul-2024 15:45	30-Jul-2024 13:31
						VA24B9271-001	VA24B9271-002	VA24B9271-003	VA24B9271-004	VA24B9271-005
						Result	Result	Result	Result	Result
Volatile Organic Compounds [Fuels]										
Styrene	100-42-5	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Toluene	108-88-3	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		<0.40	<0.40	----	----	<0.40
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		<0.30	<0.30	----	----	<0.30
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		<0.50	<0.50	----	----	<0.50
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L		<250	<250	----	----	<250
EPH (C19-C32)	----	E601A/VA	250	µg/L		<250	<250	----	----	<250
F2 (C10-C16)	----	E601/VA	100	µg/L		<100	<100	----	----	<100
F3 (C16-C34)	----	E601/VA	250	µg/L		<250	<250	----	----	<250
F4 (C34-C50)	----	E601/VA	250	µg/L		<250	<250	----	----	<250
TEH (C10-C50)	n/a	E601/VA	400	µg/L		<400	<400	----	----	<400
TEH (C16-C50)	----	E601/VA	400	µg/L		<400	<400	----	----	<400
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	----	----	<100
F1-BTEX	----	EC580/VA	100	µg/L		<100	<100	----	----	<100
HEPHw	----	EC600A/VA	250	µg/L		<250	<250	----	----	<250
LEPHw	----	EC600A/VA	250	µg/L		<250	<250	----	----	<250
VPHw	----	EC580A/VA	100	µg/L		<100	<100	----	----	<100
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	----	----	<100
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		84.5	78.4	----	----	85.2
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		83.5	83.3	----	----	83.7
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		76.8	108	----	----	111
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		91.9	93.6	----	----	93.3
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		100	101	----	----	100
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
					Client sampling date / time	30-Jul-2024 14:35	30-Jul-2024 15:05	30-Jul-2024 14:55	30-Jul-2024 15:45	30-Jul-2024 13:31
						VA24B9271-001	VA24B9271-002	VA24B9271-003	VA24B9271-004	VA24B9271-005
						Result	Result	Result	Result	Result
Polycyclic Aromatic Hydrocarbons										
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Acridine	260-94-6	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Anthracene	120-12-7	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		<0.0050	<0.0050	----	----	<0.0050
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		<0.015	<0.015	----	----	<0.015
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Chrysene	218-01-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		<0.0050	<0.0050	----	----	<0.0050
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Fluorene	86-73-7	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Naphthalene	91-20-3	E641A/VA	0.050	µg/L		<0.050	<0.050	----	----	<0.050
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L		<0.020	<0.020	----	----	<0.020
Pyrene	129-00-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	<0.010
Quinoline	91-22-5	E641A/VA	0.050	µg/L		<0.050	<0.050	----	----	<0.050
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%		90.7	98.8	----	----	98.2
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%		92.4	103	----	----	104
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%		94.3	105	----	----	105

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-north-2-24	MP06-ENE-2-24	MP06-WNW-2-24	DUP-A	MLP-01
					Client sampling date / time	30-Jul-2024 16:40	30-Jul-2024 17:10	30-Jul-2024 17:45	30-Jul-2024 00:00	30-Jul-2024 14:30
						VA24B9271-006	VA24B9271-007	VA24B9271-008	VA24B9271-009	VA24B9271-010
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		109	94.1	109	109	<1.0
Conductivity	----	E100S/VA	2.0	µS/cm		44200	35500	44200	44300	<2.0
pH	----	E108/VA	0.10	pH units		8.02	8.01	8.02	8.02	5.44
Salinity	----	EC100S/VA	1.0	psu		29.5	23.1	29.5	29.6	<1.0
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L		34300	26800	34200	34400	<10
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L		<2.0	5.0	<2.0	<2.0	<2.0
Turbidity	----	E121/VA	0.10	NTU		0.16	0.36	<0.10	0.14	<0.10
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		5390	4160	5270	5260	<1.00
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L		5510	4330	5530	5610	<1.00
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		0.0088	<0.0050	0.0086	0.0097	<0.0050
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L		55.0	42.1	55.4	55.6	<5.0
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L		16000	12600	16200	16200	<50
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L		0.68	0.57	0.68	0.71	<0.20
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L		0.091	0.084	0.084	0.098	<0.050
Nitrate (as N)	14797-55-8	E235S.NO3-T/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	0.012 RRV
Nitrite (as N)	14797-65-0	E235S.NO2-L/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L		0.0224	0.0161	0.0216	0.0216	<0.0040 DLM
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/VA	3.0	mg/L		2180	1720	2190	2190	<3.0
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L		1.02	0.85	0.95	0.96	<0.50
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		0.95	0.88	0.91	0.91	<0.50
Total Metals										
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L		<0.0050	0.0125	<0.0050	<0.0050	<0.0050
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L		0.00355	0.00308	0.00374	0.00374	<0.00040
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L		0.0080	0.0078	0.0082	0.0078	<0.0010
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-north-2-24	MP06-ENE-2-24	MP06-WNW-2-24	DUP-A	MLP-01
					Client sampling date / time	30-Jul-2024 16:40	30-Jul-2024 17:10	30-Jul-2024 17:45	30-Jul-2024 00:00	30-Jul-2024 14:30
						VA24B9271-006	VA24B9271-007	VA24B9271-008	VA24B9271-009	VA24B9271-010
						Result	Result	Result	Result	Result
Total Metals										
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total	7440-42-8	E466S/VA	0.30	mg/L		4.10	3.26	4.23	4.15	<0.30
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L		0.000023	0.000026	0.000032	0.000034	<0.000020
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L		375	294	384	384	<1.0
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L		0.000050	<0.000050	0.000055	0.000054	<0.000050
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L		<0.00050	0.00422	0.00597	0.00548	<0.00050
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, total	7439-89-6	E466S/VA	0.010	mg/L		<0.010	0.010	<0.010	<0.010	<0.010
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L		0.163	0.123	0.162	0.157	<0.020
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L		1110	874	1110	1130	<1.0
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L		0.00058	0.00071	0.00060	0.00054	<0.00020
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L		0.00837	0.00652	0.00886	0.00854	<0.00010
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L		334	257	338	340	<1.0
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L		0.0864	0.0673	0.0925	0.0893	<0.0050
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, total	7440-21-3	E468S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, total	7440-23-5	E468S.NaSi/VA	2.5	mg/L		8630	6780	8310	8710	<2.5
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L		5.86	4.55	6.29	6.00	<0.010
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L		768	596	772	740	<5.0
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-north-2-24	MP06-ENE-2-24	MP06-WNW-2-24	DUP-A	MLP-01
					Client sampling date / time	30-Jul-2024 16:40	30-Jul-2024 17:10	30-Jul-2024 17:45	30-Jul-2024 00:00	30-Jul-2024 14:30
						VA24B9271-006	VA24B9271-007	VA24B9271-008	VA24B9271-009	VA24B9271-010
						Result	Result	Result	Result	Result
Total Metals										
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L		0.00265	0.00222	0.00295	0.00276	<0.000050
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L		0.00103	0.00079	0.00111	0.00104	<0.00050
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L		0.00353	0.00322	0.00359	0.00348	<0.00040
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L		0.0082	0.0075	0.0081	0.0082	<0.0010
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L		4.13	3.22	4.02	4.10	<0.30
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L		0.000024	0.000030	0.000032	<0.000020	<0.000020
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L		377	292	364	373	<1.0
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L		0.000051	<0.000050	0.000056	0.000053	<0.000050
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	0.00054	0.00061	<0.00050
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L		0.155	0.119	0.152	0.152	<0.020
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L		1080	832	1060	1050	<1.0
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L		0.00042	0.00043	0.00041	0.00040	<0.00010
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L		0.00836	0.00613	0.00814	0.00853	<0.00010

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-north-2-24	MP06-ENE-2-24	MP06-WNW-2-24	DUP-A	MLP-01
					Client sampling date / time	30-Jul-2024 16:40	30-Jul-2024 17:10	30-Jul-2024 17:45	30-Jul-2024 00:00	30-Jul-2024 14:30
						VA24B9271-006	VA24B9271-007	VA24B9271-008	VA24B9271-009	VA24B9271-010
						Result	Result	Result	Result	Result
Dissolved Metals										
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L		327	248	326	326	<1.0
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L		0.0841	0.0619	0.0812	0.0826	<0.0050
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, dissolved	7440-21-3	E469S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, dissolved	7440-23-5	E469S.NaSi/VA	2.5	mg/L		8820	7050	8960	9070	<2.5
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L		5.68	4.20	5.52	5.55	<0.010
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L		782	592	759	770	<5.0
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L		0.00274	0.00216	0.00271	0.00269	<0.000050
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L		0.00101	0.00075	0.00097	0.00098	<0.00050
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L		<0.0010	0.0015	<0.0010	<0.0010	<0.0010
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421S/VA	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L		----	<0.50	----	----	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-north-2-24	MP06-ENE-2-24	MP06-WNW-2-24	DUP-A	MLP-01
					Client sampling date / time	30-Jul-2024 16:40	30-Jul-2024 17:10	30-Jul-2024 17:45	30-Jul-2024 00:00	30-Jul-2024 14:30
						VA24B9271-006	VA24B9271-007	VA24B9271-008	VA24B9271-009	VA24B9271-010
						Result	Result	Result	Result	Result
Volatile Organic Compounds [Fuels]										
Styrene	100-42-5	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Toluene	108-88-3	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		----	<0.40	----	----	----
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		----	<0.30	----	----	----
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L		----	<250	----	----	----
EPH (C19-C32)	----	E601A/VA	250	µg/L		----	<250	----	----	----
F2 (C10-C16)	----	E601/VA	100	µg/L		----	<100	----	----	----
F3 (C16-C34)	----	E601/VA	250	µg/L		----	<250	----	----	----
F4 (C34-C50)	----	E601/VA	250	µg/L		----	<250	----	----	----
TEH (C10-C50)	n/a	E601/VA	400	µg/L		----	<400	----	----	----
TEH (C16-C50)	----	E601/VA	400	µg/L		----	<400	----	----	----
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L		----	<100	----	----	----
F1-BTEX	----	EC580/VA	100	µg/L		----	<100	----	----	----
HEPHw	----	EC600A/VA	250	µg/L		----	<250	----	----	----
LEPHw	----	EC600A/VA	250	µg/L		----	<250	----	----	----
VPHw	----	EC580A/VA	100	µg/L		----	<100	----	----	----
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L		----	<100	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		----	81.2	----	----	----
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		----	85.7	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		----	112	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		----	94.1	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		----	100	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		----	<0.010	----	----	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MP06-north-2-24	MP06-ENE-2-24	MP06-WNW-2-24	DUP-A	MLP-01
					Client sampling date / time	30-Jul-2024 16:40	30-Jul-2024 17:10	30-Jul-2024 17:45	30-Jul-2024 00:00	30-Jul-2024 14:30
						VA24B9271-006	VA24B9271-007	VA24B9271-008	VA24B9271-009	VA24B9271-010
						Result	Result	Result	Result	Result
Polycyclic Aromatic Hydrocarbons										
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Acridine	260-94-6	E641A/VA	0.010	µg/L		----	<0.020 DLCI	----	----	----
Anthracene	120-12-7	E641A/VA	0.010	µg/L		----	<0.020 DLQ	----	----	----
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		----	<0.0050	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		----	<0.015	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Chrysene	218-01-9	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		----	<0.0050	----	----	----
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Fluorene	86-73-7	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L		----	0.046	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L		----	0.058	----	----	----
Naphthalene	91-20-3	E641A/VA	0.050	µg/L		----	<0.050	----	----	----
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L		----	0.036	----	----	----
Pyrene	129-00-0	E641A/VA	0.010	µg/L		----	<0.010	----	----	----
Quinoline	91-22-5	E641A/VA	0.050	µg/L		----	<0.050	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%		----	97.1	----	----	----
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%		----	106	----	----	----
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%		----	106	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA24B9271**	Page	: 1 of 39
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 02-Aug-2024 08:35
PO	: ----	Issue Date	: 12-Aug-2024 17:04
C-O-C number	: ----		
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) DUP-A	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MLP-01	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-north-2-24	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-Source-2-24	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
MP06-WNW-2-24	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
DUP-A	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MLP-01	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-ENE-1-24	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-North-1-24	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-Source-1-24	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE										
MP05-WNW-1-24	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-ENE-2-24	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-north-2-24	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE DUP-A	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MLP-01	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-North-1-24	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-Source-1-24	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-WNW-1-24	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-ENE-2-24	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-north-2-24	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE DUP-A	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MLP-01	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-north-2-24	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE DUP-A	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MLP-01	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-ENE-1-24	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-North-1-24	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-Source-1-24	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-WNW-1-24	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-north-2-24	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-Source-2-24	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-ENE-2-24	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	4 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-WNW-2-24	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	4 days	✓
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE DUP-A	E235S.NO2-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MLP-01	E235S.NO2-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.NO2-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.NO2-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.NO2-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.NO2-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-north-2-24	E235S.NO2-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.NO2-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.NO2-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	4 days	✓
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.NO2-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE DUP-A	E235S.SO4-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MLP-01	E235S.SO4-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.SO4-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.SO4-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.SO4-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.SO4-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.SO4-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
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HDPE MP06-north-2-24	E235S.SO4-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.SO4-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.SO4-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓

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			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) DUP-A	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MLP-01	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
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			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) DUP-A	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MLP-01	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-North-1-24	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-north-2-24	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓

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Amber glass total (sulfuric acid) MP06-Source-2-24	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) DUP-A	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MLP-01	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-ENE-1-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-North-1-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MP05-Source-1-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-WNW-1-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-ENE-2-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓

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			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-north-2-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-Source-2-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MP06-WNW-2-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
DUP-A	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MLP-01	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-ENE-1-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-North-1-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved)										
MP05-Source-1-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP05-WNW-1-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓

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			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP06-ENE-2-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP06-north-2-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP06-Source-2-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
MP06-WNW-2-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid)										
DUP-A	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid)										
MLP-01	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid)										
MP05-ENE-1-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid)										
MP05-North-1-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved)										
MP05-Source-1-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-WNW-1-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-ENE-2-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-north-2-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-Source-2-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-WNW-2-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E601A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E601A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E601A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E601A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP05-North-1-24	E601	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP05-Source-1-24	E601	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-ENE-2-24	E601	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-Source-2-24	E601	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP05-North-1-24	E581.VH+F1	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP05-Source-1-24	E581.VH+F1	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP06-ENE-2-24	E581.VH+F1	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MP06-Source-2-24	E581.VH+F1	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
DUP-A	E358-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	04-Aug-2024	28 days	1 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MLP-01	E358-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	04-Aug-2024	28 days	1 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-ENE-1-24	E358-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	04-Aug-2024	28 days	1 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-North-1-24	E358-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	04-Aug-2024	28 days	1 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-Source-1-24	E358-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	04-Aug-2024	28 days	1 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-WNW-1-24	E358-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	04-Aug-2024	28 days	1 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-ENE-2-24	E358-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	04-Aug-2024	28 days	1 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-north-2-24	E358-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	04-Aug-2024	28 days	1 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-Source-2-24	E358-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	04-Aug-2024	28 days	1 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-WNW-2-24	E358-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	04-Aug-2024	28 days	1 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
DUP-A	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MLP-01	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP05-ENE-1-24	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP05-North-1-24	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP05-Source-1-24	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP05-WNW-1-24	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP06-ENE-2-24	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP06-north-2-24	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP06-Source-2-24	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MP06-WNW-2-24	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
DUP-A	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
MLP-01	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
MP05-ENE-1-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
MP05-North-1-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
MP05-Source-1-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
MP05-WNW-1-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
MP06-ENE-2-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
MP06-north-2-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-Source-2-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-WNW-2-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE DUP-A	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MLP-01	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-ENE-1-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-North-1-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-Source-1-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-WNW-1-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-ENE-2-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Seawater										
HDPE MP06-north-2-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-Source-2-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-WNW-2-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : pH by Meter										
HDPE MP06-WNW-2-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	90 hrs	× EHTR-FM	03-Aug-2024	0.25 hrs	91 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-ENE-2-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	90 hrs	× EHTR-FM	03-Aug-2024	0.25 hrs	92 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-north-2-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	91 hrs	× EHTR-FM	03-Aug-2024	0.25 hrs	92 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-WNW-1-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	92 hrs	× EHTR-FM	03-Aug-2024	0.25 hrs	93 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE DUP-A	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	92 hrs	× EHTR-FM	03-Aug-2024	0.25 hrs	94 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-ENE-1-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	92 hrs	× EHTR-FM	03-Aug-2024	0.25 hrs	94 hrs	× EHTR-FM

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE MP05-North-1-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	92 hrs	× EHTR-FM	03-Aug-2024	0.25 hrs	94 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MLP-01	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	93 hrs	× EHTR-FM	03-Aug-2024	0.25 hrs	95 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-Source-1-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	93 hrs	× EHTR-FM	03-Aug-2024	0.25 hrs	95 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-Source-2-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	94 hrs	× EHTR-FM	03-Aug-2024	0.25 hrs	96 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE DUP-A	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MLP-01	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-north-2-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE DUP-A	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MLP-01	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-north-2-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE DUP-A	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MLP-01	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-ENE-1-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-North-1-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-Source-1-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-WNW-1-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-north-2-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-Source-2-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-ENE-2-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	4 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-WNW-2-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	4 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E641A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E641A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-ENE-2-24	E641A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
MP06-Source-2-24	E641A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
DUP-A	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
MLP-01	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
MP05-ENE-1-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
MP05-North-1-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved)										
MP05-Source-1-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
MP05-WNW-1-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
MP06-ENE-2-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
MP06-north-2-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
MP06-Source-2-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid)										
MP06-WNW-2-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid)										
DUP-A	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid)										
MLP-01	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid)										
MP05-ENE-1-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid)										
MP05-North-1-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved)										
MP05-Source-1-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid)										
MP05-WNW-1-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-north-2-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) DUP-A	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MLP-01	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP05-Source-1-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-north-2-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-North-1-24	E611A	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-Source-1-24	E611A	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E611A	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-Source-2-24	E611A	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1579240	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1579259	1	10	10.0	5.0	✓
Bromide in Seawater by IC	E235S.Br	1579242	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1583064	1	7	14.2	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1579243	1	10	10.0	5.0	✓
Conductivity in Seawater	E100S	1579239	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1587236	1	10	10.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1579817	1	10	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1579257	1	10	10.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1579818	1	10	10.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1579244	1	10	10.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1579245	1	10	10.0	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1579246	1	10	10.0	5.0	✓
pH by Meter	E108	1579241	1	10	10.0	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1579247	1	10	10.0	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1581336	1	10	10.0	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1579260	1	10	10.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1585596	1	10	10.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1579718	1	10	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1579258	1	10	10.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1579261	1	10	10.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1579717	1	10	10.0	5.0	✓
Turbidity by Nephelometry	E121	1579402	2	27	7.4	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1583065	1	8	12.5	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1579240	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1579259	1	10	10.0	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1582045	1	11	9.0	5.0	✓
Bromide in Seawater by IC	E235S.Br	1579242	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1583064	1	7	14.2	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1582047	1	7	14.2	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1579243	1	10	10.0	5.0	✓
Conductivity in Seawater	E100S	1579239	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1587236	1	10	10.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1579817	1	10	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1579257	1	10	10.0	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1579818	1	10	10.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1579244	1	10	10.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1579245	1	10	10.0	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1579246	1	10	10.0	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1582044	1	10	10.0	5.0	✓
pH by Meter	E108	1579241	1	10	10.0	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1579247	1	10	10.0	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1581336	1	10	10.0	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1579260	1	10	10.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1585596	1	10	10.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1579718	1	10	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1579258	1	10	10.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1579261	1	10	10.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1579717	1	10	10.0	5.0	✓
TSS by Gravimetry (Seawater)	E160S	1581335	1	11	9.0	5.0	✓
Turbidity by Nephelometry	E121	1579402	2	27	7.4	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1583065	1	8	12.5	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1579240	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1579259	1	10	10.0	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1582045	1	11	9.0	5.0	✓
Bromide in Seawater by IC	E235S.Br	1579242	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1583064	1	7	14.2	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1582047	1	7	14.2	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1579243	1	10	10.0	5.0	✓
Conductivity in Seawater	E100S	1579239	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1587236	1	10	10.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1579817	1	10	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1579257	1	10	10.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1579818	1	10	10.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1579244	1	10	10.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1579245	1	10	10.0	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1579246	1	10	10.0	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1582044	1	10	10.0	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1579247	1	10	10.0	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1581336	1	10	10.0	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1579260	1	10	10.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1585596	1	10	10.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1579718	1	10	10.0	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1579258	1	10	10.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1579261	1	10	10.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1579717	1	10	10.0	5.0	✓
TSS by Gravimetry (Seawater)	E160S	1581335	1	11	9.0	5.0	✓
Turbidity by Nephelometry	E121	1579402	2	27	7.4	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1583065	1	8	12.5	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1579259	1	10	10.0	5.0	✓
Bromide in Seawater by IC	E235S.Br	1579242	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1583064	1	7	14.2	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1579243	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1587236	1	10	10.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1579817	1	10	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1579257	1	10	10.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1579818	1	10	10.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1579244	1	10	10.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1579245	1	10	10.0	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1579246	1	10	10.0	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1579247	1	10	10.0	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1579260	1	10	10.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1585596	1	10	10.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1579718	1	10	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1579258	1	10	10.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1579261	1	10	10.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1579717	1	10	10.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1583065	1	8	12.5	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Seawater	E100S ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TSS by Gravimetry (Seawater)	E160S ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids.
TDS by Gravimetry (Seawater)	E162S ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Seawater by IC	E235S.Br ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Seawater by IC	E235S.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Seawater by IC (Low Level)	E235S.F-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	TKN in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Triple Quadrupole ICPMS.
Total Metals in Seawater by Triple Quad ICPMS	E466S ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Triple Quadrupole ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
Total Mercury in Seawater by CVAAS	E508S ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Seawater samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Mercury in Seawater by CVAAS	E509S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Seawater samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Water	BC MOE Lab Manual	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
BTEX by Headspace GC-MS	E611A ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Salinity in Water (calculation)	EC100S ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
F1-BTEX	EC580 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for TKN in Seawater	EP318S ALS Environmental - Vancouver	Water	APHA 4500-Norg D (mod)	Samples are digested at high temperature using Sulfuric Acid with Copper catalyst, which converts organic nitrogen sources to Ammonia, which is then quantified by the analytical method as TKN. This method is unsuitable for samples containing high levels of nitrate. If nitrate exceeds TKN concentration by ten times or more, results may be biased low.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Metals Seawater Filtration	EP421S ALS Environmental - Vancouver	Water	PUGET SOUND PROTOCOLS, EPA 6020A	This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by Collision/Reaction Cell ICPMS.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: **VA24B9271**	Page	: 1 of 21
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 02-Aug-2024 08:35
PO	: ----	Date Analysis Commenced	: 03-Aug-2024
C-O-C number	: ----	Issue Date	: 12-Aug-2024 17:04
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Anshim Anshim	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Christopher Li	Analyst	Vancouver Metals, Burnaby, British Columbia
Daniel Shabestani	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
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Sam Silveira	Analyst	Vancouver Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1579239)											
VA24B9271-003	MP05-ENE-1-24	Conductivity	----	E100S	2.0	µS/cm	35200	35400	0.566%	20%	----
Physical Tests (QC Lot: 1579240)											
VA24B9271-003	MP05-ENE-1-24	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	93.1	94.4	1.39%	20%	----
Physical Tests (QC Lot: 1579241)											
VA24B9271-003	MP05-ENE-1-24	pH	----	E108	0.10	pH units	8.00	8.00	0.00%	4%	----
Physical Tests (QC Lot: 1579402)											
VA24B9181-001	Anonymous	Turbidity	----	E121	0.10	NTU	166	165	0.604%	15%	----
Physical Tests (QC Lot: 1579403)											
VA24B9271-006	MP06-north-2-24	Turbidity	----	E121	0.10	NTU	0.16	0.14	0.02	Diff <2x LOR	----
Physical Tests (QC Lot: 1581336)											
VA24B9271-001	MP05-Source-1-24	Solids, total dissolved [TDS]	----	E162S	800	mg/L	26900	26200	2.33%	20%	----
Anions and Nutrients (QC Lot: 1579242)											
VA24B9271-001	MP05-Source-1-24	Bromide	24959-67-9	E235S.Br	5.0	mg/L	40.3	41.7	1.4	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1579243)											
VA24B9271-001	MP05-Source-1-24	Chloride	16887-00-6	E235S.Cl	50	mg/L	11800	12300	3.80%	20%	----
Anions and Nutrients (QC Lot: 1579244)											
VA24B9271-001	MP05-Source-1-24	Fluoride	16984-48-8	E235S.F-L	0.20	mg/L	0.52	0.54	0.02	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1579245)											
VA24B9271-001	MP05-Source-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1579246)											
VA24B9271-001	MP05-Source-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1579247)											
VA24B9271-001	MP05-Source-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3.0	mg/L	1660	1660	0.178%	20%	----
Anions and Nutrients (QC Lot: 1579259)											
VA24B9271-001	MP05-Source-1-24	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1579260)											
VA24B9271-001	MP05-Source-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	0.050	mg/L	0.076	0.084	0.008	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1579261)											
VA24B9271-001	MP05-Source-1-24	Phosphorus, total	7723-14-0	E372S	0.0040	mg/L	0.0174	0.0180	0.0006	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1579257)											

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Organic / Inorganic Carbon (QC Lot: 1579257) - continued											
VA24B9271-001	MP05-Source-1-24	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.14	1.16	0.02	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1579258)											
VA24B9271-001	MP05-Source-1-24	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	0.89	0.96	0.07	Diff <2x LOR	----
Total Metals (QC Lot: 1579717)											
VA24B9271-001	MP05-Source-1-24	Silicon, total	7440-21-3	E468S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	6640	6630	0.195%	20%	----
Total Metals (QC Lot: 1579718)											
VA24B9271-001	MP05-Source-1-24	Aluminum, total	7429-90-5	E466S	0.0050	mg/L	0.0089	0.0078	0.0011	Diff <2x LOR	----
		Antimony, total	7440-36-0	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E466S	0.00040	mg/L	0.00266	0.00295	0.00030	Diff <2x LOR	----
		Barium, total	7440-39-3	E466S	0.0010	mg/L	0.0075	0.0077	0.0001	Diff <2x LOR	----
		Beryllium, total	7440-41-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E466S	0.30	mg/L	2.75	3.08	0.33	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E466S	0.000020	mg/L	<0.000020	0.000027	0.000007	Diff <2x LOR	----
		Calcium, total	7440-70-2	E466S	1.0	mg/L	283	295	4.03%	20%	----
		Cesium, total	7440-46-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E466S	0.000050	mg/L	0.000050	0.000052	0.000002	Diff <2x LOR	----
		Copper, total	7440-50-8	E466S	0.00050	mg/L	0.00958	0.00952	0.719%	20%	----
		Gallium, total	7440-55-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E466S	0.010	mg/L	0.013	0.012	0.0009	Diff <2x LOR	----
		Lead, total	7439-92-1	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E466S	0.020	mg/L	0.115	0.123	0.008	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E466S	1.0	mg/L	879	900	2.42%	20%	----
		Manganese, total	7439-96-5	E466S	0.00020	mg/L	0.00076	0.00078	0.00002	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E466S	0.00010	mg/L	0.00638	0.00664	3.98%	20%	----
		Nickel, total	7440-02-0	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E466S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E466S	1.0	mg/L	254	260	2.54%	20%	----
		Rhenium, total	7440-15-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E466S	0.0050	mg/L	0.0656	0.0677	3.20%	20%	----
		Selenium, total	7782-49-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, total	7440-22-4	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1579718) - continued											
VA24B9271-001	MP05-Source-1-24	Strontium, total	7440-24-6	E466S	0.010	mg/L	4.39	4.60	4.56%	20%	----
		Sulfur, total	7704-34-9	E466S	5.0	mg/L	572	590	3.11%	20%	----
		Tellurium, total	13494-80-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E466S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E466S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E466S	0.000050	mg/L	0.00230	0.00224	2.61%	20%	----
		Vanadium, total	7440-62-2	E466S	0.00050	mg/L	0.00074	0.00084	0.00010	Diff <2x LOR	----
		Yttrium, total	7440-65-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E466S	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1585596)											
VA24B9271-001	MP05-Source-1-24	Mercury, total	7439-97-6	E508S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1579817)											
VA24B9271-001	MP05-Source-1-24	Aluminum, dissolved	7429-90-5	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E465S	0.00040	mg/L	0.00282	0.00291	0.00009	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E465S	0.0010	mg/L	0.0074	0.0072	0.0002	Diff <2x LOR	----
		Beryllium, dissolved	7440-41-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E465S	0.30	mg/L	2.69	2.86	0.17	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E465S	0.000020	mg/L	<0.000020	0.000025	0.000005	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E465S	1.0	mg/L	279	275	1.63%	20%	----
		Cesium, dissolved	7440-46-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Gallium, dissolved	7440-55-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E465S	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E465S	0.020	mg/L	0.108	0.115	0.007	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E465S	1.0	mg/L	842	848	0.656%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Dissolved Metals (QC Lot: 1579817) - continued											
VA24B9271-001	MP05-Source-1-24	Manganese, dissolved	7439-96-5	E465S	0.00010	mg/L	0.00054	0.00050	0.00003	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E465S	0.00010	mg/L	0.00648	0.00643	0.736%	20%	----
		Nickel, dissolved	7440-02-0	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E465S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E465S	1.0	mg/L	242	240	0.958%	20%	----
		Rhenium, dissolved	7440-15-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E465S	0.0050	mg/L	0.0649	0.0619	4.67%	20%	----
		Selenium, dissolved	7782-49-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E465S	0.010	mg/L	4.43	4.26	3.93%	20%	----
		Sulfur, dissolved	7704-34-9	E465S	5.0	mg/L	586	591	0.911%	20%	----
		Tellurium, dissolved	13494-80-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E465S	0.000050	mg/L	0.00222	0.00217	2.09%	20%	----
		Vanadium, dissolved	7440-62-2	E465S	0.00050	mg/L	0.00078	0.00070	0.00009	Diff <2x LOR	----
		Yttrium, dissolved	7440-65-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E465S	0.0010	mg/L	0.0012	0.0011	0.0001	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1579818)											
VA24B9271-001	MP05-Source-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	7020	7110	1.21%	20%	----
Dissolved Metals (QC Lot: 1587236)											
VA24B9271-001	MP05-Source-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1583064)											
VA24B8291-002	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	1.21	1.25	0.04	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Volatile Organic Compounds (QC Lot: 1583064) - continued											
VA24B8291-002	Anonymous	Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1583065)											
VA24B8835-002	Anonymous	F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----
		VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1579239)						
Conductivity	----	E100S	2	µS/cm	<2.0	----
Physical Tests (QCLot: 1579240)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	1.3	----
Physical Tests (QCLot: 1579402)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1579403)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1581335)						
Solids, total suspended [TSS]	----	E160S	2	mg/L	<2.0	----
Physical Tests (QCLot: 1581336)						
Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	----
Anions and Nutrients (QCLot: 1579242)						
Bromide	24959-67-9	E235S.Br	5	mg/L	<5.0	----
Anions and Nutrients (QCLot: 1579243)						
Chloride	16887-00-6	E235S.Cl	50	mg/L	<50	----
Anions and Nutrients (QCLot: 1579244)						
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	<0.20	----
Anions and Nutrients (QCLot: 1579245)						
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1579246)						
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1579247)						
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1579259)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1579260)						
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1579261)						
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 1579257)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1579258)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1579258) - continued						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1579717)						
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	<1.0	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	<2.5	----
Total Metals (QCLot: 1579718)						
Aluminum, total	7429-90-5	E466S	0.005	mg/L	<0.0050	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	<0.0010	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	<0.00040	----
Barium, total	7440-39-3	E466S	0.001	mg/L	<0.0010	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	<0.00050	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	<0.00050	----
Boron, total	7440-42-8	E466S	0.3	mg/L	<0.30	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	<0.000020	----
Calcium, total	7440-70-2	E466S	1	mg/L	<1.0	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	<0.00050	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	<0.000050	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	<0.00050	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E466S	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	<0.00010	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	<0.020	----
Magnesium, total	7439-95-4	E466S	1	mg/L	<1.0	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	<0.00020	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	<0.00010	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E466S	1	mg/L	<1.0	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	<0.00050	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	<0.0050	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	<0.00050	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	<0.00010	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	<0.010	----
Sulfur, total	7704-34-9	E466S	5	mg/L	<5.0	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	<0.00050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1579718) - continued						
Thallium, total	7440-28-0	E466S	0.00005	mg/L	<0.000050	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	<0.00050	----
Tin, total	7440-31-5	E466S	0.001	mg/L	<0.0010	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	<0.0050	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	<0.0010	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	<0.000050	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	<0.00050	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	<0.00050	----
Total Metals (QCLot: 1585596)						
Mercury, total	7439-97-6	E508S	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1579817)						
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	<0.0050	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	<0.0010	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	<0.00040	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	<0.0010	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	<0.00050	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	<0.00050	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	<0.30	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	<0.000020	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	<1.0	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	<0.00050	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	<0.000050	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	<0.00050	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	<0.00050	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	<0.00010	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	<0.020	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	<1.0	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	<0.00010	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	<0.050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1579817) - continued						
Potassium, dissolved	7440-09-7	E465S	1	mg/L	<1.0	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	<0.00050	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	<0.0050	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	<0.00050	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	<0.00010	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	<0.010	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	<5.0	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	<0.00050	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	<0.000050	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	<0.00050	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	<0.0010	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	<0.0050	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	<0.0010	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	<0.000050	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	<0.00050	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	<0.00050	----
Dissolved Metals (QCLot: 1579818)						
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	<1.0	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	<2.5	----
Dissolved Metals (QCLot: 1587236)						
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1583064)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1582045)						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
Hydrocarbons (QCLot: 1582047)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Hydrocarbons (QCLot: 1582047) - continued						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Hydrocarbons (QCLot: 1583065)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1582044)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1579239)									
Conductivity	----	E100S	2	µS/cm	147 µS/cm	99.6	80.0	120	----
Physical Tests (QCLot: 1579240)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	104	85.0	115	----
Physical Tests (QCLot: 1579241)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1579402)									
Turbidity	----	E121	0.1	NTU	200 NTU	98.0	85.0	115	----
Physical Tests (QCLot: 1579403)									
Turbidity	----	E121	0.1	NTU	200 NTU	98.5	85.0	115	----
Physical Tests (QCLot: 1581335)									
Solids, total suspended [TSS]	----	E160S	2	mg/L	150 mg/L	94.3	85.0	115	----
Physical Tests (QCLot: 1581336)									
Solids, total dissolved [TDS]	----	E162S	10	mg/L	1000 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 1579242)									
Bromide	24959-67-9	E235S.Br	5	mg/L	0.5 mg/L	97.8	85.0	115	----
Anions and Nutrients (QCLot: 1579243)									
Chloride	16887-00-6	E235S.Cl	50	mg/L	100 mg/L	95.6	90.0	110	----
Anions and Nutrients (QCLot: 1579244)									
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	1 mg/L	92.2	90.0	110	----
Anions and Nutrients (QCLot: 1579245)									
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	2.5 mg/L	95.1	90.0	110	----
Anions and Nutrients (QCLot: 1579246)									
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	0.5 mg/L	96.4	90.0	110	----
Anions and Nutrients (QCLot: 1579247)									
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	100 mg/L	96.4	90.0	110	----
Anions and Nutrients (QCLot: 1579259)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	100	85.0	115	----
Anions and Nutrients (QCLot: 1579260)									
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	4 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1579261)									
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	0.05 mg/L	93.7	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Organic / Inorganic Carbon (QCLot: 1579257)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	98.9	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1579258)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	98.8	80.0	120	----
Total Metals (QCLot: 1579717)									
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	10 mg/L	108	80.0	120	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	50 mg/L	102	80.0	120	----
Total Metals (QCLot: 1579718)									
Aluminum, total	7429-90-5	E466S	0.005	mg/L	2 mg/L	92.4	80.0	120	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	1 mg/L	106	80.0	120	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	1 mg/L	99.9	80.0	120	----
Barium, total	7440-39-3	E466S	0.001	mg/L	0.25 mg/L	102	80.0	120	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	0.1 mg/L	106	80.0	120	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	1 mg/L	98.9	80.0	120	----
Boron, total	7440-42-8	E466S	0.3	mg/L	1 mg/L	99.0	80.0	120	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	0.1 mg/L	97.7	80.0	120	----
Calcium, total	7440-70-2	E466S	1	mg/L	50 mg/L	99.3	80.0	120	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	0.05 mg/L	104	80.0	120	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	0.25 mg/L	93.5	80.0	120	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	0.25 mg/L	88.6	80.0	120	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	0.25 mg/L	97.0	80.0	120	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	0.25 mg/L	99.5	80.0	120	----
Iron, total	7439-89-6	E466S	0.01	mg/L	1 mg/L	92.4	80.0	120	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	0.5 mg/L	99.0	80.0	120	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	0.25 mg/L	100	80.0	120	----
Magnesium, total	7439-95-4	E466S	1	mg/L	50 mg/L	112	80.0	120	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	0.25 mg/L	91.2	80.0	120	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	0.25 mg/L	90.6	80.0	120	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	0.5 mg/L	89.8	80.0	120	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	10 mg/L	99.2	80.0	120	----
Potassium, total	7440-09-7	E466S	1	mg/L	50 mg/L	101	80.0	120	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	0.1 mg/L	105	80.0	120	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	0.1 mg/L	90.9	80.0	120	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	1 mg/L	99.6	80.0	120	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	0.1 mg/L	87.6	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1579718) - continued									
Strontium, total	7440-24-6	E466S	0.01	mg/L	0.25 mg/L	89.6	80.0	120	----
Sulfur, total	7704-34-9	E466S	5	mg/L	50 mg/L	102	80.0	120	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	0.1 mg/L	94.6	80.0	120	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	1 mg/L	102	80.0	120	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	0.1 mg/L	98.5	80.0	120	----
Tin, total	7440-31-5	E466S	0.001	mg/L	0.5 mg/L	97.7	80.0	120	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	0.25 mg/L	96.6	80.0	120	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	0.1 mg/L	96.9	80.0	120	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	0.5 mg/L	92.5	80.0	120	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	0.1 mg/L	97.8	80.0	120	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	0.5 mg/L	93.2	80.0	120	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	0.1 mg/L	94.2	80.0	120	----
Total Metals (QCLot: 1585596)									
Mercury, total	7439-97-6	E508S	0.000005	mg/L	0 mg/L	105	80.0	120	----
Dissolved Metals (QCLot: 1579817)									
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	2 mg/L	88.0	80.0	120	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	1 mg/L	102	80.0	120	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	1 mg/L	96.6	80.0	120	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	0.25 mg/L	99.2	80.0	120	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	0.1 mg/L	105	80.0	120	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	1 mg/L	94.8	80.0	120	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	1 mg/L	98.9	80.0	120	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	0.1 mg/L	97.5	80.0	120	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	50 mg/L	100	80.0	120	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	0.05 mg/L	99.5	80.0	120	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	0.25 mg/L	92.6	80.0	120	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	0.25 mg/L	86.9	80.0	120	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	0.25 mg/L	97.0	80.0	120	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	0.25 mg/L	101	80.0	120	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	1 mg/L	89.2	80.0	120	----
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	0.5 mg/L	95.1	80.0	120	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	0.25 mg/L	100	80.0	120	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	50 mg/L	112	80.0	120	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	0.25 mg/L	90.4	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1579817) - continued									
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	0.25 mg/L	90.3	80.0	120	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	0.5 mg/L	91.0	80.0	120	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	10 mg/L	97.8	80.0	120	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	50 mg/L	103	80.0	120	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	0.1 mg/L	103	80.0	120	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	0.1 mg/L	89.0	80.0	120	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	1 mg/L	101	80.0	120	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	0.1 mg/L	87.2	80.0	120	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	0.25 mg/L	87.9	80.0	120	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	50 mg/L	99.3	80.0	120	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	0.1 mg/L	94.9	80.0	120	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	1 mg/L	96.7	80.0	120	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	0.1 mg/L	104	80.0	120	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	0.5 mg/L	98.6	80.0	120	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	0.25 mg/L	93.5	80.0	120	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	0.1 mg/L	98.6	80.0	120	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	0.005 mg/L	97.4	80.0	120	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	0.5 mg/L	92.3	80.0	120	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	0.1 mg/L	94.1	80.0	120	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	0.5 mg/L	89.8	80.0	120	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	0.1 mg/L	92.8	80.0	120	----
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	10 mg/L	101	80.0	120	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	50 mg/L	103	80.0	120	----
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	0 mg/L	101	80.0	120	----
Volatile Organic Compounds (QCLot: 1583064)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	116	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	104	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	113	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	112	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	108	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	110	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	107	70.0	130	----
Hydrocarbons (QCLot: 1582045)									
EPH (C10-C19)	----	E601A	250	µg/L	6490 µg/L	102	70.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Hydrocarbons (QCLot: 1582045) - continued									
EPH (C19-C32)	----	E601A	250	µg/L	3360 µg/L	105	70.0	130	----
Hydrocarbons (QCLot: 1582047)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	107	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	100	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	111	70.0	130	----
Hydrocarbons (QCLot: 1583065)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	84.1	70.0	130	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	81.7	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1582044)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	107	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	114	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	102	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	111	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	110	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	121	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	103	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	117	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	114	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	102	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	112	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	106	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	108	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	106	60.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1579242)										
VA24B9271-002	MP05-North-1-24	Bromide	24959-67-9	E235S.Br	51.3 mg/L	50 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1579243)										
VA24B9271-002	MP05-North-1-24	Chloride	16887-00-6	E235S.Cl	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1579244)										
VA24B9271-002	MP05-North-1-24	Fluoride	16984-48-8	E235S.F-L	8.88 mg/L	10 mg/L	88.8	75.0	125	----
Anions and Nutrients (QCLot: 1579245)										
VA24B9271-002	MP05-North-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	7.20 mg/L	7.5 mg/L	96.0	75.0	125	----
Anions and Nutrients (QCLot: 1579246)										
VA24B9271-002	MP05-North-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	4.71 mg/L	5 mg/L	94.2	75.0	125	----
Anions and Nutrients (QCLot: 1579247)										
VA24B9271-002	MP05-North-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1579259)										
VA24B9271-002	MP05-North-1-24	Ammonia, total (as N)	7664-41-7	E298	0.105 mg/L	0.1 mg/L	105	75.0	125	----
Anions and Nutrients (QCLot: 1579260)										
VA24B9271-002	MP05-North-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	2.17 mg/L	2.5 mg/L	86.7	70.0	130	----
Anions and Nutrients (QCLot: 1579261)										
VA24B9271-002	MP05-North-1-24	Phosphorus, total	7723-14-0	E372S	0.0878 mg/L	0.1 mg/L	87.8	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1579257)										
VA24B9271-002	MP05-North-1-24	Carbon, dissolved organic [DOC]	----	E358-L	5.12 mg/L	5 mg/L	102	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1579258)										
VA24B9271-002	MP05-North-1-24	Carbon, total organic [TOC]	----	E355-L	5.12 mg/L	5 mg/L	102	70.0	130	----
Total Metals (QCLot: 1579717)										
VA24B9271-002	MP05-North-1-24	Silicon, total	7440-21-3	E468S.NaSi	520 mg/L	500 mg/L	104	70.0	130	----
		Sodium, total	7440-23-5	E468S.NaSi	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1579718)										
VA24B9271-002	MP05-North-1-24	Aluminum, total	7429-90-5	E466S	3.39 mg/L	4 mg/L	84.8	70.0	130	----
		Antimony, total	7440-36-0	E466S	0.388 mg/L	0.4 mg/L	97.0	70.0	130	----
		Arsenic, total	7440-38-2	E466S	0.406 mg/L	0.4 mg/L	102	70.0	130	----
		Barium, total	7440-39-3	E466S	0.401 mg/L	0.4 mg/L	100	70.0	130	----
		Beryllium, total	7440-41-7	E466S	0.873 mg/L	0.8 mg/L	109	70.0	130	----
		Bismuth, total	7440-69-9	E466S	0.178 mg/L	0.2 mg/L	89.2	70.0	130	----
		Boron, total	7440-42-8	E466S	ND mg/L	----	ND	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1579718) - continued										
VA24B9271-002	MP05-North-1-24	Cadmium, total	7440-43-9	E466S	0.0782 mg/L	0.08 mg/L	97.8	70.0	130	----
		Calcium, total	7440-70-2	E466S	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E466S	0.202 mg/L	0.2 mg/L	101	70.0	130	----
		Chromium, total	7440-47-3	E466S	0.744 mg/L	0.8 mg/L	93.0	70.0	130	----
		Cobalt, total	7440-48-4	E466S	0.346 mg/L	0.4 mg/L	86.6	70.0	130	----
		Copper, total	7440-50-8	E466S	0.365 mg/L	0.4 mg/L	91.3	70.0	130	----
		Gallium, total	7440-55-3	E466S	0.0578 mg/L	0.05 mg/L	116	70.0	130	----
		Iron, total	7439-89-6	E466S	35.0 mg/L	40 mg/L	87.5	70.0	130	----
		Lead, total	7439-92-1	E466S	0.368 mg/L	0.4 mg/L	92.0	70.0	130	----
		Lithium, total	7439-93-2	E466S	2.04 mg/L	2 mg/L	102	70.0	130	----
		Magnesium, total	7439-95-4	E466S	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E466S	0.362 mg/L	0.4 mg/L	90.6	70.0	130	----
		Molybdenum, total	7439-98-7	E466S	0.375 mg/L	0.4 mg/L	93.8	70.0	130	----
		Nickel, total	7440-02-0	E466S	0.678 mg/L	0.8 mg/L	84.8	70.0	130	----
		Phosphorus, total	7723-14-0	E466S	211 mg/L	200 mg/L	105	70.0	130	----
		Potassium, total	7440-09-7	E466S	ND mg/L	----	ND	70.0	130	----
		Rhenium, total	7440-15-5	E466S	0.0556 mg/L	0.05 mg/L	111	70.0	130	----
		Rubidium, total	7440-17-7	E466S	0.372 mg/L	0.4 mg/L	93.1	70.0	130	----
		Selenium, total	7782-49-2	E466S	0.854 mg/L	0.8 mg/L	107	70.0	130	----
		Silver, total	7440-22-4	E466S	0.0722 mg/L	0.08 mg/L	90.3	70.0	130	----
		Strontium, total	7440-24-6	E466S	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E466S	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E466S	0.757 mg/L	0.8 mg/L	94.6	70.0	130	----
		Thallium, total	7440-28-0	E466S	0.0753 mg/L	0.08 mg/L	94.1	70.0	130	----
		Thorium, total	7440-29-1	E466S	0.373 mg/L	0.4 mg/L	93.2	70.0	130	----
		Tin, total	7440-31-5	E466S	0.404 mg/L	0.4 mg/L	101	70.0	130	----
		Titanium, total	7440-32-6	E466S	0.807 mg/L	0.8 mg/L	101	70.0	130	----
		Tungsten, total	7440-33-7	E466S	0.389 mg/L	0.4 mg/L	97.3	70.0	130	----
		Uranium, total	7440-61-1	E466S	0.0771 mg/L	0.08 mg/L	96.4	70.0	130	----
		Vanadium, total	7440-62-2	E466S	1.86 mg/L	2 mg/L	92.8	70.0	130	----
		Yttrium, total	7440-65-5	E466S	0.0546 mg/L	0.05 mg/L	109	70.0	130	----
		Zinc, total	7440-66-6	E466S	6.95 mg/L	8 mg/L	86.8	70.0	130	----
		Zirconium, total	7440-67-7	E466S	0.736 mg/L	0.8 mg/L	92.0	70.0	130	----
Total Metals (QCLot: 1585596)										
VA24B9271-002	MP05-North-1-24	Mercury, total	7439-97-6	E508S	0.0000717 mg/L	0 mg/L	71.7	70.0	130	----
Dissolved Metals (QCLot: 1579817)										
VA24B9271-002	MP05-North-1-24	Aluminum, dissolved	7429-90-5	E465S	3.25 mg/L	4 mg/L	81.3	70.0	130	----
		Antimony, dissolved	7440-36-0	E465S	0.378 mg/L	0.4 mg/L	94.6	70.0	130	----
		Arsenic, dissolved	7440-38-2	E465S	0.376 mg/L	0.4 mg/L	93.9	70.0	130	----
		Barium, dissolved	7440-39-3	E465S	0.399 mg/L	0.4 mg/L	99.6	70.0	130	----
		Beryllium, dissolved	7440-41-7	E465S	0.840 mg/L	0.8 mg/L	105	70.0	130	----
		Bismuth, dissolved	7440-69-9	E465S	0.172 mg/L	0.2 mg/L	85.9	70.0	130	----
		Boron, dissolved	7440-42-8	E465S	ND mg/L	----	ND	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1579817) - continued										
VA24B9271-002	MP05-North-1-24	Cadmium, dissolved	7440-43-9	E465S	0.0752 mg/L	0.08 mg/L	94.0	70.0	130	----
		Calcium, dissolved	7440-70-2	E465S	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E465S	0.198 mg/L	0.2 mg/L	99.1	70.0	130	----
		Chromium, dissolved	7440-47-3	E465S	0.729 mg/L	0.8 mg/L	91.2	70.0	130	----
		Cobalt, dissolved	7440-48-4	E465S	0.340 mg/L	0.4 mg/L	85.0	70.0	130	----
		Copper, dissolved	7440-50-8	E465S	0.362 mg/L	0.4 mg/L	90.4	70.0	130	----
		Gallium, dissolved	7440-55-3	E465S	0.0546 mg/L	0.05 mg/L	109	70.0	130	----
		Iron, dissolved	7439-89-6	E465S	35.0 mg/L	40 mg/L	87.6	70.0	130	----
		Lead, dissolved	7439-92-1	E465S	0.355 mg/L	0.4 mg/L	88.7	70.0	130	----
		Lithium, dissolved	7439-93-2	E465S	1.96 mg/L	2 mg/L	97.9	70.0	130	----
		Magnesium, dissolved	7439-95-4	E465S	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E465S	0.354 mg/L	0.4 mg/L	88.5	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E465S	0.360 mg/L	0.4 mg/L	90.1	70.0	130	----
		Nickel, dissolved	7440-02-0	E465S	0.664 mg/L	0.8 mg/L	83.0	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E465S	193 mg/L	200 mg/L	96.6	70.0	130	----
		Potassium, dissolved	7440-09-7	E465S	ND mg/L	----	ND	70.0	130	----
		Rhenium, dissolved	7440-15-5	E465S	0.0526 mg/L	0.05 mg/L	105	70.0	130	----
		Rubidium, dissolved	7440-17-7	E465S	0.361 mg/L	0.4 mg/L	90.3	70.0	130	----
		Selenium, dissolved	7782-49-2	E465S	0.806 mg/L	0.8 mg/L	101	70.0	130	----
		Silver, dissolved	7440-22-4	E465S	0.0695 mg/L	0.08 mg/L	86.9	70.0	130	----
		Strontium, dissolved	7440-24-6	E465S	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E465S	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E465S	0.724 mg/L	0.8 mg/L	90.5	70.0	130	----
		Thallium, dissolved	7440-28-0	E465S	0.0711 mg/L	0.08 mg/L	88.9	70.0	130	----
		Thorium, dissolved	7440-29-1	E465S	0.383 mg/L	0.4 mg/L	95.8	70.0	130	----
		Tin, dissolved	7440-31-5	E465S	0.385 mg/L	0.4 mg/L	96.2	70.0	130	----
		Titanium, dissolved	7440-32-6	E465S	0.732 mg/L	0.8 mg/L	91.5	70.0	130	----
		Tungsten, dissolved	7440-33-7	E465S	0.373 mg/L	0.4 mg/L	93.2	70.0	130	----
		Uranium, dissolved	7440-61-1	E465S	0.0778 mg/L	0.08 mg/L	97.3	70.0	130	----
		Vanadium, dissolved	7440-62-2	E465S	1.85 mg/L	2 mg/L	92.6	70.0	130	----
		Yttrium, dissolved	7440-65-5	E465S	0.0498 mg/L	0.05 mg/L	99.7	70.0	130	----
		Zinc, dissolved	7440-66-6	E465S	6.68 mg/L	8 mg/L	83.6	70.0	130	----
		Zirconium, dissolved	7440-67-7	E465S	0.698 mg/L	0.8 mg/L	87.3	70.0	130	----
Dissolved Metals (QCLot: 1579818)										
VA24B9271-002	MP05-North-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	472 mg/L	500 mg/L	94.4	70.0	130	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	ND mg/L	----	ND	70.0	130	----
Dissolved Metals (QCLot: 1587236)										
VA24B9271-002	MP05-North-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000832 mg/L	0 mg/L	83.2	70.0	130	----
Volatile Organic Compounds (QCLot: 1583064)										
VA24B8291-002	Anonymous	Benzene	71-43-2	E611A	102 µg/L	100 µg/L	102	60.0	140	----
		Ethylbenzene	100-41-4	E611A	95.4 µg/L	100 µg/L	95.4	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	107 µg/L	100 µg/L	107	60.0	140	----
		Styrene	100-42-5	E611A	102 µg/L	100 µg/L	102	60.0	140	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1583064) - continued										
VA24B8291-002	Anonymous	Toluene	108-88-3	E611A	97.9 µg/L	100 µg/L	97.9	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	210 µg/L	200 µg/L	105	60.0	140	----
		Xylene, o-	95-47-6	E611A	98.1 µg/L	100 µg/L	98.1	60.0	140	----
Hydrocarbons (QCLot: 1583065)										
VA24B9264-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5470 µg/L	6310 µg/L	86.7	60.0	140	----
		VHw (C6-C10)	----	E581.VH+F1	5320 µg/L	6310 µg/L	84.3	60.0	140	----

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number: 21 -

Page 1 of 1

Environmental Division Vancouver

Work Order Reference

VA24B9271

Telephone : +1 604 253 4188

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	~~Elaine Irving~~/Connor Pettem
Phone:	1-604-297-2030/1-604-296-4200
	Company address below will appear on the final report
Street:	840 Howe Street, 10th Floor
City/Province:	Vancouver, BC
Postal Code:	V6Z 2M1
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax ~~elaine.irving@wsp.com~~

Email 2 connor.pettem@wsp.com

Email 3 trish.tomliens@wsp.com

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax

Email 2

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply

☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge min

☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge min

☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge min

☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge min

☐ Same day [E2] if received by 10am M-S - 200% rush surcha

Additional fees may apply to rush requests on weeke

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, pleas

Project Information

ALS Account # / Quote #:

Job #: GOLD100-011

PO / AFE: CA0026317.6821/86000/03

LSD:

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#

Major/Minor Code: Routing Code:

Requisitioner:

Location:

ALS Lab Work Order # (ALS use only): B92J1

ALS Contact: Amber Springer Sampler: TT/MR/DV

Analysis R

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	General (alkalinity, turbidity, cond.)	Anions, TOC, DOC, Hard., Salinity	pH, TSS, TDS, Ammonia, TKN	F/P Dissolved Metals	P Total Metals	F/P Dissolved Hg	P Total Hg	P Nutrients (including total phosphorus)	P Petroleum hydrocarbons (MTBE)	P Petroleum hydrocarbons (BTEX,F1)	P Hydrocarbons (LEPH/HEPH)	P PAH, F2-F4	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
1	MP05-Source-1-24	30-Jul-24	14:35	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
2	MP05-North-1-24		15:05	Seawater	6	R	R	R	R	R	R	R	R							
3	MP05-ENE-1-24		14:55	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
4	MP05-WNW-1-24		15:45	Seawater	6	R	R	R	R	R	R	R	R							
5	MP06-Source-2-24		13:31	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
6	MP06-North-2-24		16:40	Seawater	6	R	R	R	R	R	R	R	R							
7	MP06-ENE-2-24		17:10	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
8	MP06-WNW-2-24		17:45	Seawater	6	R	R	R	R	R	R	R	R							
9	DUP- A		—	Seawater	6	R	R	R	R	R	R	R	R							
10	MLP- 01		14:30	Seawater	6	R	R	R	R	R	R	R	R							

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System?

☐ YES ☑ NO

Are samples for human consumption/ use?

☐ YES ☑ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

Refer to quote GOLD100-011 for all analyses. Dissolved analyses are field filtered.

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☑ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☑ N/A Sample Custody Seals Intact: ☐ YES ☑ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C	
				9 cold ice pk	14 warm ice pk

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
Patricia Sabiel	31 July 2024	13:00

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
JC	2 Aug 24	835a

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form.**

* Double checked

APPENDIX 2C

Water Quality Screening Table

Station				MP-05																			
Sample Name				MP-05 ENE					MP-05 North					MP-05-Source					MP-05 WNW				
Sample Date				30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024	30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024	30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024	30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024
FIELD_SDG				VA24B9271-003	VA24B9990-003	VA24C0615-003	YL2401213-003	VA24C1760-003	VA24B9271-002	VA24B9990-002	VA24C0615-002	YL2401213-002	VA24C1760-002	VA24B9271-001	VA24B9990-001	VA24C0615-001	YL2401213-001	VA24C1760-001	VA24B9271-004	VA24B9990-004	VA24C0615-004	YL2401213-004	VA24C1760-004
Parameter	**CCME AQUATIC LIFE MARINE WATER - LONG TERM**	**CCME AQUATIC LIFE MARINE WATER - SHORT TERM**	**Unit**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field + Physical																							
Alkalinity, total (as CaCO3)	-	-	mg/L	93.1	84.7	107	98.2	103	92.5	85.2	107	98.3	103	93.9	83.4	107	101	103	94.6	80.7	107	98.5	103
Conductivity	-	-	µS/cm	35200	12100	44100	30900	40900	34600	13300	44200	30900	40000	34300	12000	44100	34300	40900	34400	5320	44800	35700	40300
Hardness (as CaCO3), dissolved	-	-	mg/L	4340	1230	5560	3860	4840	3890	1270	5380	3830	4530	4160	770	5650	4210	5090	4170	593	5520	4520	4670
Hardness (as CaCO3), from total Ca/Mg	-	-	mg/L	4500	1310	5440	3770	4780	4230	1030	5280	3750	4790	4330	814	5790	4470	5000	4310	608	5590	4250	4780
Solids, total dissolved [TDS]	-	-	mg/L	27900	8300	39700	21900	30400	26900	9020	39400	24100	29700	26900	7990	42900	26900	29300	26700	3060	37000	27600	30300
Solids, total suspended [TSS]	-	-	mg/L	5.3	<2.0	2.4	<2.0	2.7	2.6	<2.0	2.2	3.5	<2.0	2.1	<2.0	<2.0	3.2	<2.0	2.5	<2.0	2.4	3.4	2.6
Turbidity	-	-	NTU	0.96	0.36	0.28	0.41	0.28	0.39	0.29	0.44	0.48	0.37	0.71	0.37	0.38	0.27	0.3	0.35	0.34	0.19	0.76	0.41
pH	**7.0 - 8.7**	-	pH units	8.0	8.1	8.0	8.1	8.0	8.0	8.1	8.1	8.1	8.0	8.0	8.1	8.0	8.1	8.0	8.0	8.1	8.1	8.0	8.0
Salinity	-	-	psu	22.9	7.1	29.2	19.9	27.3	22.5	7.9	29.3	19.9	26.7	22.2	7	29.2	22.3	27.3	22.3	2.9	29.7	23.3	26.9
Anions + Nutrients																							
Ammonia, total (as N)	-	-	mg/L	0.0112	<0.0050	0.0057	<0.0050	<0.0050	<0.0050	0.0054	0.0053	<0.0050	0.0072	<0.0050	<0.0050	0.0074	<0.0050	0.0064	0.006	0.0082	0.0089	<0.0050	<0.0050
Bromide	-	-	mg/L	42.3	13.4	55.7	36.1	50.9	41.4	15.1	55.7	36	54	40.3	13.2	56	40.4	52.5	41.5	6.3	56.7	42.7	53.2
Chloride	-	-	mg/L	12500	3800	16600	11000	14700	12300	4160	16600	11000	15500	11800	3680	16800	12400	15100	12300	1530	16900	12900	15400
Fluoride	-	-	mg/L	0.57	0.2	0.75	0.54	0.92	0.54	0.22	0.74	0.74	0.9	0.52	<0.20	0.7	0.55	0.85	0.55	<0.20	0.76	0.6	0.92
Kjeldahl nitrogen, total [TKN]	-	-	mg/L	0.08	<0.050	0.1	0.102	0.068	0.087	0.091	0.11	0.084	0.112	0.076	<0.050	0.105	0.075	0.126	0.073	<0.050	0.099	0.09	0.064
Nitrate (as N)	**339**	**45**	mg/L	<0.010	<0.010	0.011	<0.010	<0.010	<0.010	0.034	0.024	<0.010	<0.010	<0.010	0.011	0.016	0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrite (as N)	-	-	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	-	-	mg/L	0.0185	0.0058	0.0227	0.0155	0.0201	0.0155	0.0088	0.0246	0.0154	0.0198	0.0174	0.0049	0.022	0.0182	0.0192	0.0159	0.0037	0.0229	0.0176	0.0189
Phosphorus, total dissolved	-	-	mg/L	-	0.0054	0.0263	0.0147	0.0198	-	0.0086	0.0284	0.0151	0.0188	-	0.0053	0.0205	0.017	0.0188	-	0.0024	0.0225	0.0168	0.0185
Sulfate (as SO4)	-	-	mg/L	1720	525	2250	1510	2080	1670	574	2250	1510	2050	1660	507	2220	1700	1960	1660	213	2300	1770	2050
Carbon																							
Carbon, dissolved organic [DOC]	-	-	mg/L	<0.50	1.02	0.87	1.15	1.00	0.94	1.02	1.05	0.94	0.94	1.14	1.31	0.94	0.92	1.08	0.89	0.95	1.14	0.92	0.92
Carbon, total organic [TOC]	-	-	mg/L	0.85	1.21	0.93	0.92	0.98	0.82	1.14	0.97	0.89	1.11	0.89	1.08	0.76	0.92	1.01	1.09	1.15	0.80	0.92	1.04
Metals, Total																							
Aluminum	-	-	mg/L	0.0141	0.0115	<0.0050	0.0091	0.0123	0.0076	0.0072	0.0106	0.0087	0.0114	0.0089	0.0117	0.0061	0.0061	0.0122	0.0077	0.0102	0.005	0.0136	0.0137
Antimony	-	-	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic	**0.0125**	-	mg/L	0.00306	0.00096	0.00386	0.00239	0.00344	0.00306	0.00107	0.0036	0.00263	0.00357	0.00266	0.00058	0.00392	0.00262	0.00313	0.00292	0.00045	0.00383	0.00296	0.0032
Barium	-	-	mg/L	0.0076	0.0048	0.0079	0.0071	0.0086	0.0074	0.0045	0.008	0.007	0.0084	0.0075	0.0043	0.008	0.0073	0.0083	0.0077	0.0041	0.0082	0.0082	0.0082
Beryllium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron	-	-	mg/L	3.21	0.81	3.99	2.54	3.65	3.12	0.64	3.86	2.60	3.56	2.75	0.47	3.98	2.83	3.43	3.27	0.37	4.14	2.96	3.70
Cadmium	**0.00012**	-	mg/L	0.000027	<0.000020	0.000034	<0.000020	0.00003	0.00003	<0.000020	<0.000020	<0.000020	0.00002	<0.000020	<0.000020	0.000022	0.000024	0.000026	<0.000020	<0.000020	0.000023	0.000027	0.000035
Calcium	-	-	mg/L	298	95	398	258	351	292	76	384	257	360	283	64	405	294	355	288	51	407	295	353
Cesium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium	**0.0015 (VI)**	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt	-	-	mg/L	0.000061	<0.000050	0.000058	<0.000050	0.000064	0.000054	<0.000050	0.000058	<0.000050	0.000058	0.00005	<0.000050	0.000061	<0.000050	0.000059	0.000052	<0.000050	0.000061	0.000056	0.000077
Copper	-	-	mg/L	0.00563	0.00284	0.00271	0.00063	<0.00050	<0.00050	0.00166	0.00054	<0.00050	0.00139	0.00958	0.00606	<0.00050	<0.00050	<0.00050	0.00328	0.0106	0.00092	0.0007	<0.00050
Gallium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron	-	-	mg/L	0.022	0.011	<0.010	0.012	0.018	<0.010	<0.010	<0.010	0.013	0.016	0.013	<0.010	<0.010	<0.010	0.019	0.01	<0.010	<0.010	0.024	0.023
Lead	-	-	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium	-	-	mg/L	0.128	0.034	0.147	0.110	0.158	0.121	0.026	0.145	0.112	0.156	0.115	0.020	0.156	0.126	0.149	0.128	<0.020	0.154	0.130	0.157
Magnesium	-	-	mg/L	911	262	1080	759	947	850	204	1050	755	946	879	159	1160	908	1000	873	117	1110	853	947
Manganese	-	-	mg/L	0.00098	0.00079	0.00085	0.00077	0.00104	0.00072	0.00077	0.00094	0.00077	0.00103	0.00076	0.00077	0.00086	0.00071	0.00113	0.00076	0.00066	0.00069	0.00118	0.00114
Mercury	**0.000016**	-	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum	-	-	mg/L	0.00686	0.00198	0.00848	0.00583	0.00782	0.00659	0.00171	0.0086	0.00567	0.00808	0.00638	0.00126	0.00915	0.00678	0.00846	0.00664	0.00085	0.0094	0.00712	0.00776
Nickel	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus	-	-	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium	-	-	mg/L	264	73.3	341	230	280	253	57.8	338	228	287	254	43.7	349	261	285	254	31.6	353	270	281
Rhenium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium	-	-	mg/L	0.0689	0.0206	0.0896	0.0596	0.0827	0.0657	0.017	0.0907	0.0606	0.0846	0.0656	0.0127	0.0957	0.0708	0.0851	0.0675	0.0091	0.0945	0.0719	0.0796
Selenium	-	-	mg/L	<0.00050	<0.00050	0.00052	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00074	<0.00050	<0.00050
Silicon	-	-	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silver	-	**0.0075**	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium	-	-	mg/L	6740	1880	8890	6030	7780	6600	1480	9180	6300	7760	6640	1120	9010	6730	8380	6710	803	9160	6950	7730
Strontium	-	-	mg/L	4.66	1.39	6.02	3.97	5.49	4.42	1.12	5.98	4.03	5.64	4.39	0.84	6.30	4.76	5.69	4.55	0.59	6.31	4.86	5.31
Sulphur (Colloidal)	-	-	mg/L	606	164	779	528	714	593	126	780	540	754	572	98	852	625	745	591	69.7	820	611	749
Tellurium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium	-	-	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium-232	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin	-	-	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium	-	-	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten	-	-	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium	-	-	mg/L	0.0023	0.0015	0.0029	0.0022	0.0028	0.0021	0.0013	0.0029	0.0022	0.0028	0.0023	0.0013	0.0030	0.0024	0.0029	0.0023	0.0013	0.0030	0.0023	0.0028
Vanadium	-	-	mg/L	0.0009	<0.00050	0.0010	0.0007	0.0009	0.0008	<0.00050	0.0010	0.0007	0.0010	0.0007	<0.00050	0.0011	0.0008	0.0009	0.0008	<0.00050	0.0010	0.0008	0.0009
Yttrium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc	-	-	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Metals, Dissolved																							
Aluminum	-	-	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony	-	-	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic	**0.0125**	-	mg/L	0.00308	0.00099	0.00382	0.00242	0.00349	0.003	0.00102	0.00372	0.00262	0.00349	0.00282	0.00075	0.00358	0.00285	0.00333	0.00308	0.00046	0.00358	0.00304	0.00364
Barium	-	-	mg/L	0.0073	0.0045	0.0078	0.007	0.008	0.0073	0.0047	0.0081	0.0068	0.0082	0.0074	0.0042	0.0082	0.007	0.0089	0.0074	0.004	0.0081	0.0084	0.0083
Beryllium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron	-	-	mg/L	2.98	0.78	3.76	2.69	3.58	3.01	0.80	3.72	2.58	3.55	2.69	0.46	3.70	2.88	3.50	3.07	0.36	3.88	3.19	3.52
Cadmium	**0.00012**	-	mg/L	<0.000020	<0.000020	0.000024	0.000022	0.000025	0.000024	<0.000020	0.000025	0.000022	0.000022	<0.000020	<0.000020	0.000026	0.000027	0.000024	0.000022	<0.000020	0.000031	0.000023	0.000021
Calcium	-	-	mg/L	289	88.6	379	255	346	274	94.5	392	255	334	279	61.2	384	279	358	281	49.6	395	298	345
Cesium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt	-	-	mg/L	<0.000050	<0.000050	0.000056	<0.000050	0.000058	<0.000050	<0.000050	0.000057	0.000052	0.000055	<0.000050	<0.000050	0.000058	<0.000050	0.000062	<0.000050	<0.000050	0.000057	0.000058	0.000056
Copper	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.0008	<0.00050	<0.00050	<0.00050	<0.00050	0.00115	<0.00050	<0.00050	<0.00050	<0.00050	0.00058	<0.00050	<0.00050	<0.00050
Gallium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron	-	-	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lead	-	-	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium	-	-	mg/L	0.12	0.03	0.15	0.11	0.15	0.11	0.03	0.14	0.11	0.16	0.11	<0.020	0.15	0.12	0.16	0.12	<0.020	0.15	0.13	0.15
Magnesium	-	-	mg/L	880	244	1120	782	966	778	252	1070	775	898	842	150	1140	853	1020	843	114	1100	916	926
Manganese	-	-	mg/L	0.00048	0.00059	0.0007	0.00055	0.00066	0.00043	0.00051	0.0007	0.00053	0.00065	0.00054	0.00058	0.00073	0.00053	0.00083	0.00046	0.00054	0.0006	0.00075	0.00064
Mercury	**0.000016**	-	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000100	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000100	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000100	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000100
Molybdenum	-	-	mg/L	0.0064	0.00187	0.00885	0.00541	0.00765	0.00601	0.00193	0.00914	0.00549	0.00783	0.00648	0.00119	0.00958	0.00606	0.00866	0.00624	0.00089	0.00941	0.00653	0.00834
Nickel	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus	-	-	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium	-	-	mg/L	255	69	334	229	281	232	73.3	340	228	273	242	43	334	255	291	246	30.3	342	270	275
Rhenium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium	-	-	mg/L	0.0632	0.02	0.0927	0.0556	0.0815	0.0606	0.0207	0.0938	0.0562	0.0814	0.0649	0.0124	0.0964	0.0625	0.0885	0.0619	0.0092	0.0953	0.0668	0.083
Selenium	-	-	mg/L	<0.00050	<0.00050	0.00065	<0.00050	<0.00050	<0.00050	<0.00050	0.00065	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00052	<0.00050	<0.00050
Silicon	-	-	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silver	-	**0.0075**	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium	-	-	mg/L	6890	1730	9140	5540	7770	6970	1830	9170	5530	7540	7020	1040	9100	6090	8340	6820	792	9080	6620	7680
Strontium	-	-	mg/L	4.27	1.36	6.19	3.74	5.41	4.06	1.39	6.33	3.76	5.45	4.43	0.82	6.39	4.23	5.88	4.20	0.61	6.38	4.52	5.57
Sulphur (Colloidal)	-	-	mg/L	614	164	815	590	731	548	163	815	606	713	586	101	856	693	754	585	75.9	815	712	757
Tellurium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium	-	-	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium-232	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin	-	-	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium	-	-	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten	-	-	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium	-	-	mg/L	0.00227	0.00135	0.00292	0.00218	0.00268	0.00213	0.00140	0.00300	0.00224	0.00273	0.00222	0.00135	0.00309	0.00242	0.00296	0.00219	0.00132	0.00319	0.00223	0.00285
Vanadium	-	-	mg/L	0.00073	<0.00050	0.00104	0.00069	0.00086	0.00071	<0.00050	0.00097	0.00071	0.00082	0.00078	<0.00050	0.00104	0.00082	0.00093	0.00071	<0.00050	0.00101	0.00086	0.00088
Yttrium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc	-	-	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.001	<0.0010	<0.0010	0.0012	<0.0010	<0.0010	0.0012	<0.0010	<0.0010	<0.0010	<0.0010	0.0019	<0.0010
Zirconium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
VOCs + BTEX																							
Benzene	**110**	-	µg/L	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-
Ethylbenzene	**25**	-	µg/L	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-
Methyl-tert-butyl ether [MTBE]	**5000**	-	µg/L	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-
Styrene	-	-	µg/L	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-
Toluene	**215**	-	µg/L	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-
Xylene, m+p-	-	-	µg/L	-	-	-	-	-	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	-	-	-	-	-
Xylene, o-	-	-	µg/L	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	-	-	-	-
Xylenes, total	-	**1000 [4]**	µg/L	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-
SUM OF BTEX	-	-	µg/L	-	-	-	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	-	-	-	-
Hydrocarbons																							
EPH (C10-C19)	-	-	µg/L	-	-	-	-	-	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	-	-	-	-	-
EPH (C19-C32)	-	-	µg/L	-	-	-	-	-	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	-	-	-	-	-
F1 (C6-C10)	-	-	µg/L	-	-	-	-	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	-	-	-	-
F2 (C10-C16)	-	-	µg/L	-	-	-	-	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	-	-	-	-
F3 (C16-C34)	-	-	µg/L	-	-	-	-	-	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	-	-	-	-	-
F4 (C34-C50)	-	-	µg/L	-	-	-	-	-	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	-	-	-	-	-
VHw (C6-C10)	-	-	µg/L	-	-	-	-	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	-	-	-	-
F1-BTEX	-	-	µg/L	-	-	-	-	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	-	-	-	-
LEPHw	-	-	µg/L	-	-	-	-	-	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	-	-	-	-	-
VPHw	-	-	µg/L	-	-	-	-	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	-	-	-	-
HEPHw	-	-	µg/L	-	-	-	-	-	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	-	-	-	-	-
TEH (C10-C50)	-	-	µg/L	-	-	-	-	-	<400	<400	<400	<400	<400	<400	<400	<400	<400	<400	-	-	-	-	-
TEH (C16-C50)	-	-	µg/L	-	-	-	-	-	<400	<400	<400	<400	<400	<400	<400	<400	<400	<400	-	-	-	-	-
Acenaphthene	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Acenaphthylene	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Acridine	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Anthracene	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Benz(a)anthracene	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Benzo(a)pyrene	-	-	µg/L	-	-	-	-	-	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	-	-	-	-	-
Benzo(b+j)fluoranthene	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Benzo(b+j+k)fluoranthene	-	-	µg/L	-	-	-	-	-	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	-	-	-	-	-
Benzo(g,h,i)perylene	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Benzo(k)fluoranthene	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Chrysene	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Dibenz(a,h)anthracene	-	-	µg/L	-	-	-	-	-	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	-	-	-	-	-
Fluoranthene	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Fluorene	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Indeno(1,2,3-c,d)pyrene	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Methylnaphthalene, 1-	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Methylnaphthalene, 2-	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.014	<0.010	<0.010	<0.010	-	-	-	-	-
Naphthalene	**1.4**	-	µg/L	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	-	-	-	-	-
Phenanthrene	-	-	µg/L	-	-	-	-	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	-	-	-	-
Pyrene	-	-	µg/L	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Quinoline	-	-	µg/L	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	-	-	-	-	-
PAHs, Low molecular weight (BC AWQ) [1,2]	-	-	µg/L	-	-	-	-	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	-	-	-	-	-
PAHs, High molecular weight (BC AWQ) [1,3]	-	-	µg/L	-	-	-	-	-	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	-	-	-	-	-
PAHs, total (EPA 16) [5]	-	-	µg/L	-	-	-	-	-	<0.295	<0.295	<0.295	<0.295	<0.295	<0.295	0.299	<0.295	<0.295	<0.295	-	-	-	-	-

Notes:

(VI) - hexavalent chromium

BTEX = benzene, toluene, ethylbenzene and xylene; CCME = Canadian Council of Ministers for the Environment; F1, F2, F3. F4 - Fractions of hydrocarbons; mg/L = milligrams per liter; MP-05 - monitoring stations west of the ore dock, downstream from the MP-05 discharge in a radial design; MP-06 - monitoring stations east of the ore dock; N = nitrogen; NA = not applicable; NC = not calculated; NTU = Nephelometric Turbidity Units; pH = scale of acidity; psu = practical salinity units; VHC = volatile hydrocarbons; VOCs = volatile organic compounds; µg/L = microgram per liter; µS/cm = milliSiemens per centimeter; "-" = no value; "<" = less than detection limit.

[1] Sum of all compounds analyzed in the chemical class, values below the method detection limit were assigned a value of the detection limit.

[2] Low molecular weight PAHs are comprised of acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene

[3] High molecular weight PAHs are comprised of benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(b+j+k)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, indeno(1,2,3-c,d)pyrene, and pyrene

[4] Based on Federal Environmental Quality Guidelines (FEQG) for total xylene (ECCC 2024).

[5] Total PAHs are comprised of Acenaphthene, Acenaphthylene, Acridine, Anthracene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(b+j)fluoranthene, Benzo(b+j+k)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-c,d)pyrene, Methylnaphthalene, 1-, Methylnaphthalene, 2-, Naphthalene, Phenanthrene, Pyrene, and Quinoline

CCME MARINE - LONG TERM GUIDELINE EXCEEDANCE
CCME MARINE - SHORT TERM GUIDELINE EXCEEDANCE

Appendix 2C - Table 1: Water Quality Screening
Table for Marine Environmental Effects Monitoring Program 2024

Station				MP-06																			
Sample Name				MP-06 ENE					MP-06 North					MP-06 Source					MP-06 WNW				
Sample Date				30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024	30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024	30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024	30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024
FIELD_SDG				VA24B9271-007	VA24B9990-007	VA24C0615-007	YL2401213-007	VA24C1760-007	VA24B9271-006	VA24B9990-006	VA24C0615-006	YL2401213-006	VA24C1760-006	VA24B9271-005	VA24B9990-005	VA24C0615-005	YL2401213-005	VA24C1760-005	VA24B9271-008	VA24B9990-008	VA24C0615-008	YL2401213-008	VA24C1760-008
Parameter	**CCME AQUATIC LIFE MARINE WATER - LONG TERM**	**CCME AQUATIC LIFE MARINE WATER - SHORT TERM**	**Unit**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field + Physical																							
Alkalinity, total (as CaCO3)	-	-	mg/L	94.1	112	109	108	105	109	112	108	109	105	94.4	78.4	107	90	103	109	112	110	108	104
Conductivity	-	-	µS/cm	35500	46200	45700	45800	43400	44200	46400	45400	46200	44700	34800	2480	45000	16600	40600	44200	46100	45700	45700	40600
Hardness (as CaCO3), dissolved	-	-	mg/L	4160	5730	5320	5780	5080	5390	5910	5620	5880	5140	4240	308	4900	1970	4790	5270	5660	5470	5870	4780
Hardness (as CaCO3), from total Ca/Mg	-	-	mg/L	4330	5780	5650	5180	5110	5510	6150	5480	5480	5290	4540	302	5530	1900	4710	5530	5960	5490	5140	4680
Solids, total dissolved [TDS]	-	-	mg/L	26800	44500	44300	36600	31900	34300	44300	43800	36800	32900	27000	1420	44600	11600	30500	34200	45200	44900	36500	30300
Solids, total suspended [TSS]	-	-	mg/L	5.0	5.1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	4.7	<2.0	3.8	<2.0	<2.0	<2.0	2.5	<2.0	<2.0	7.2	5.0	2.6
Turbidity	-	-	NTU	0.36	0.17	0.23	0.2	0.26	0.16	0.16	0.25	0.25	0.29	0.32	0.4	0.24	0.42	0.4	<0.10	0.2	0.19	0.18	0.32
pH	**7.0 - 8.7**	-	pH units	8.0	8.1	8.1	8.0	8.0	8.0	8.0	8.1	8.0	8.0	8.0	8.1	8.1	8.1	8.0	8.0	8.1	8.1	8.0	8.0
Salinity	-	-	psu	23.1	30.8	30.4	30.8	29.2	29.5	31	30.2	31	30.2	22.6	1.3	29.9	10.1	27.1	29.5	30.8	30.4	30.7	27.1
Anions + Nutrients																							
Ammonia, total (as N)	-	-	mg/L	<0.0050	<0.0050	<0.0050	0.0094	<0.0050	0.0088	0.0059	<0.0050	<0.0050	0.0071	<0.0050	0.0081	0.0092	0.0052	0.0051	0.0086	0.006	<0.0050	<0.0050	<0.0050
Bromide	-	-	mg/L	42.1	55.5	57.8	56	54.4	55	55.8	58.3	56.8	59.8	41.6	<5.0	57.5	17.9	50.7	55.4	56.2	57.9	56	49.6
Chloride	-	-	mg/L	12600	16600	17100	16800	15800	16000	16700	17300	17100	17300	12300	666	17200	5570	14600	16200	16600	17000	16900	14300
Fluoride	-	-	mg/L	0.57	0.89	0.8	1.01	0.91	0.68	0.83	0.8	0.91	0.97	0.56	<0.20	0.76	0.31	0.9	0.68	0.87	0.81	0.99	0.91
Kjeldahl nitrogen, total [TKN]	-	-	mg/L	0.084	0.099	0.089	0.1	0.071	0.091	0.087	0.073	0.103	0.073	0.08	<0.050	0.099	0.08	0.072	0.084	0.09	0.094	0.096	<0.050
Nitrate (as N)	**339**	**45**	mg/L	<0.010	<0.010	0.069	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrite (as N)	-	-	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	-	-	mg/L	0.0161	0.0266	0.0235	0.0253	0.0219	0.0224	0.0235	0.0239	0.025	0.0229	0.0159	0.003	0.0236	0.0086	0.0204	0.0216	0.0252	0.0239	0.0251	0.0188
Phosphorus, total dissolved	-	-	mg/L	-	0.025	0.0226	0.0247	0.022	-	0.0252	0.0224	0.0247	0.0225	-	<0.0020	0.0224	0.0103	0.0192	-	0.0242	0.0229	0.0245	0.019
Sulfate (as SO4)	-	-	mg/L	1720	2250	2330	2320	2090	2180	2250	2340	2360	2270	1680	90.3	2310	768	2060	2190	2240	2340	2330	2040
Carbon																							
Carbon, dissolved organic [DOC]	-	-	mg/L	0.85	1.15	0.76	0.88	0.93	1.02	2.35	0.89	1.01	1.09	1.02	1.07	0.73	1.08	0.99	0.95	1.01	0.96	1.00	0.97
Carbon, total organic [TOC]	-	-	mg/L	0.88	1.17	0.78	1.08	0.94	0.95	0.96	0.83	0.95	0.92	0.86	1.37	0.79	1.02	1.00	0.91	1.27	0.81	0.86	0.97
Metals, Total																							
Aluminum	-	-	mg/L	0.0125	<0.0050	0.0074	0.0122	0.0122	<0.0050	<0.0050	<0.0050	0.0056	0.0125	0.0127	0.0126	<0.0050	0.0069	0.0122	<0.0050	<0.0050	<0.0050	<0.0050	0.0121
Antimony	-	-	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic	**0.0125**	-	mg/L	0.00308	0.00361	0.00404	0.00357	0.0038	0.00355	0.0036	0.0039	0.00383	0.00378	0.00323	<0.00040	0.00398	0.00162	0.00338	0.00374	0.00415	0.00421	0.00357	0.00347
Barium	-	-	mg/L	0.0078	0.0083	0.0083	0.0084	0.008	0.008	0.0084	0.0078	0.0082	0.008	0.0079	0.0039	0.0081	0.0053	0.008	0.0082	0.0086	0.0082	0.0083	0.0083
Beryllium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron	-	-	mg/L	3.26	3.92	4.14	3.79	3.85	4.10	3.78	4.07	3.77	3.86	3.27	<0.30	4.05	1.30	3.55	4.23	3.64	4.11	3.70	3.57
Cadmium	**0.00012**	-	mg/L	0.000026	0.00003	0.000038	0.000041	0.000033	0.000023	0.000026	0.000022	0.000036	0.000033	0.000022	<0.000020	0.000033	<0.000020	0.000024	0.000032	0.00004	0.000035	0.00003	0.000028
Calcium	-	-	mg/L	294	367	416	375	381	375	384	398	382	386	296	32	399	138	354	384	375	402	375	347
Cesium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium	**0.0015 (VI)**	-	mg/L	<0.00050	0.00062	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt	-	-	mg/L	<0.000050	0.000063	0.000055	0.000053	0.000063	0.00005	0.000061	0.000056	0.00006	0.000065	0.000056	<0.000050	0.000055	<0.000050	0.000058	0.000055	0.00006	0.000051	<0.000050	0.000058
Copper	-	-	mg/L	0.00422	0.00463	0.00169	0.00252	<0.00050	<0.00050	0.00431	0.00583	0.00057	<0.00050	0.0201	0.00856	0.00057	0.00078	<0.00050	0.00597	0.00683	<0.00050	<0.00050	<0.00050
Gallium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron	-	-	mg/L	0.01	0.036	<0.010	<0.010	0.016	<0.010	<0.010	<0.010	<0.010	0.017	0.018	0.016	0.014	<0.010	0.019	<0.010	<0.010	<0.010	<0.010	0.017
Lead	-	-	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium	-	-	mg/L	0.123	0.157	0.152	0.173	0.173	0.163	0.160	0.152	0.172	0.178	0.127	<0.020	0.152	0.054	0.156	0.162	0.153	0.151	0.169	0.156
Magnesium	-	-	mg/L	874	1180	1120	1030	1010	1110	1260	1090	1100	1050	923	53.7	1100	377	930	1110	1220	1090	1020	925
Manganese	-	-	mg/L	0.00071	0.00069	0.00049	0.00064	0.00085	0.00058	0.00053	0.0005	0.00054	0.00083	0.00095	0.00083	0.00085	0.00054	0.00111	0.0006	0.00052	0.00049	0.00048	0.00097
Mercury	**0.000016**	-	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum	-	-	mg/L	0.00652	0.00939	0.00889	0.00894	0.00906	0.00837	0.00955	0.00884	0.00916	0.00906	0.00677	0.00047	0.00886	0.00294	0.00779	0.00886	0.0106	0.0092	0.00871	0.00783
Nickel	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus	-	-	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium	-	-	mg/L	257	347	359	340	308	334	356	346	351	316	266	13.8	351	114	285	338	346	353	341	280
Rhenium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium	-	-	mg/L	0.0673	0.097	0.0951	0.0934	0.0912	0.0864	0.0985	0.0948	0.0936	0.0944	0.0681	<0.0050	0.0934	0.0308	0.0802	0.0925	0.106	0.0955	0.0924	0.0815
Selenium	-	-	mg/L	<0.00050	<0.00050	0.00067	<0.00050	<0.00050	<0.00050	<0.00050	0.00064	<0.00050	<0.00050	<0.00050	<0.00050	0.00081	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon	-	-	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silver	-	**0.0075**	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium	-	-	mg/L	6780	9010	9360	9260	8310	8630	9640	9360	9210	8580	6660	348	9270	2990	7770	8310	8850	9210	9390	7500
Strontium	-	-	mg/L	4.55	6.52	6.27	6.29	6.05	5.86	6.67	6.18	6.31	6.33	4.63	0.27	6.25	2.04	5.36	6.29	7.24	6.32	6.06	5.42
Sulphur (Colloidal)	-	-	mg/L	596	737	825	773	778	768	759	802	781	790	596	29	817	262	707	772	773	829	743	702
Tellurium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium	-	-	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium-232	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin	-	-	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium	-	-	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten	-	-	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium	-	-	mg/L	0.0022	0.0028	0.0031	0.0027	0.0029	0.0027	0.0029	0.0028	0.0026	0.0030	0.0023	0.0011	0.0030	0.0016	0.0035	0.0030	0.0030	0.0030	0.0027	0.0028
Vanadium	-	-	mg/L	0.0008	0.0011	0.0011	0.0011	0.0010	0.0010	0.0012	0.0010	0.0011	0.0010	0.0008	<0.00050	0.0010	<0.00050	0.0009	0.0011	0.0012	0.0010	0.0010	0.0008
Yttrium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc	-	-	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Metals, Dissolved																							
Aluminum	-	-	mg/L	<0.0050	<0.0050	<0.0050	0.0058	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0081	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony	-	-	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic	**0.0125**	-	mg/L	0.00322	0.00406	0.00394	0.00344	0.00378	0.00353	0.004	0.00406	0.00352	0.00405	0.00297	<0.00040	0.00352	0.0013	0.00353	0.00359	0.0039	0.00371	0.00374	0.00354
Barium	-	-	mg/L	0.0075	0.0081	0.0078	0.0082	0.0079	0.0082	0.0081	0.0079	0.0083	0.0078	0.0076	0.0038	0.008	0.0051	0.0081	0.0081	0.0082	0.0077	0.0078	0.0082
Beryllium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron	-	-	mg/L	3.22	3.44	3.81	4.14	3.76	4.13	3.66	4.00	4.13	3.73	3.08	<0.30	3.49	1.43	3.60	4.02	3.60	3.87	4.16	3.51
Cadmium	**0.00012**	-	mg/L	0.00003	<0.000020	0.000024	0.000034	0.000027	0.000024	0.000027	0.000034	0.000026	0.000028	0.00002	<0.000020	<0.000020	<0.000020	0.000028	0.000032	0.000031	0.000025	0.000025	0.000021
Calcium	-	-	mg/L	292	366	384	386	371	377	373	404	391	375	286	32.8	352	134	350	364	371	395	389	351
Cesium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt	-	-	mg/L	<0.000050	0.000053	<0.000050	0.00007	0.00006	0.000051	0.000056	0.000056	0.000073	0.000059	<0.000050	<0.000050	0.000074	<0.000050	0.00006	0.000056	0.000054	0.00006	0.00007	0.000053
Copper	-	-	mg/L	<0.00050	0.00067	<0.00050	0.00056	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00104	0.00107	0.00112	<0.00050	<0.00050	0.00054	<0.00050	<0.00050	<0.00050	<0.00050
Gallium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron	-	-	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lead	-	-	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00058	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium	-	-	mg/L	0.12	0.15	0.14	0.17	0.17	0.16	0.15	0.15	0.17	0.17	0.12	<0.020	0.13	0.05	0.16	0.15	0.15	0.15	0.17	0.16
Magnesium	-	-	mg/L	832	1170	1060	1170	1010	1080	1210	1120	1190	1020	856	54.8	976	397	951	1060	1150	1090	1190	948
Manganese	-	-	mg/L	0.00043	0.00046	0.0004	0.00043	0.00049	0.00042	0.00047	0.00038	0.00043	0.00048	0.0006	0.00054	0.00164	0.00037	0.00071	0.00041	0.00043	0.00037	0.00042	0.00063
Mercury	**0.000016**	-	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000100	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000100	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000100	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000100
Molybdenum	-	-	mg/L	0.00613	0.0093	0.00908	0.00866	0.00874	0.00836	0.00952	0.00949	0.00902	0.00862	0.00624	0.0005	0.00818	0.00282	0.00831	0.00814	0.00928	0.00907	0.00855	0.00792
Nickel	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00063	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus	-	-	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium	-	-	mg/L	248	334	335	361	297	327	342	348	366	299	251	14	304	112	284	326	343	344	365	283
Rhenium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium	-	-	mg/L	0.0619	0.0971	0.0921	0.0893	0.0892	0.0841	0.0991	0.0973	0.0919	0.0898	0.0621	<0.0050	0.0847	0.0277	0.0851	0.0812	0.0967	0.0941	0.0872	0.0834
Selenium	-	-	mg/L	<0.00050	0.00055	0.0007	<0.00050	<0.00050	<0.00050	<0.00050	0.00068	<0.00050	<0.00050	<0.00050	<0.00050	0.00068	<0.00050	<0.00050	<0.00050	0.00075	0.00061	<0.00050	<0.00050
Silicon	-	-	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silver	-	**0.0075**	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium	-	-	mg/L	7050	8910	9310	8570	8050	8820	8840	9560	8590	8270	6990	342	7770	2710	7800	8960	9000	9370	8380	7530
Strontium	-	-	mg/L	4.20	6.64	6.17	5.96	6.09	5.68	6.82	6.47	6.18	5.97	4.24	0.27	5.67	1.87	5.74	5.52	6.48	6.30	5.89	5.54
Sulphur (Colloidal)	-	-	mg/L	592	799	818	916	770	782	814	817	921	790	577	32.5	727	298	717	759	793	798	909	711
Tellurium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium	-	-	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium-232	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin	-	-	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium	-	-	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten	-	-	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium	-	-	mg/L	0.00216	0.00280	0.00292	0.00275	0.00288	0.00274	0.00296	0.00302	0.00273	0.00299	0.00223	0.00117	0.00277	0.00158	0.00345	0.00271	0.00282	0.00302	0.00271	0.00270
Vanadium	-	-	mg/L	0.00075	0.00106	0.00097	0.00114	0.00096	0.00101	0.00115	0.00104	0.00116	0.00093	0.00075	<0.00050	0.00090	<0.00050	0.00088	0.00097	0.00107	0.00097	0.00108	0.00087
Yttrium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc	-	-	mg/L	0.0015	0.0014	<0.0010	0.0027	<0.0010	<0.0010	<0.0010	0.0014	0.0013	<0.0010	0.0011	<0.0010	0.0074	<0.0010	<0.0010	<0.0010	<0.0010	0.0011	0.002	<0.0010
Zirconium	-	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
VOCs + BTEX																							
Benzene	**110**	-	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-
Ethylbenzene	**25**	-	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-
Methyl-tert-butyl ether [MTBE]	**5000**	-	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-
Styrene	-	-	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-
Toluene	**215**	-	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-
Xylene, m+p-	-	-	µg/L	<0.40	<0.40	<0.40	<0.40	<0.40	-	-	-	-	-	<0.40	<0.40	<0.40	<0.40	<0.40	-	-	-	-	-
Xylene, o-	-	-	µg/L	<0.30	<0.30	<0.30	<0.30	<0.30	-	-	-	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	-	-	-	-	-
Xylenes, total	-	**1000** [4]	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-
SUM OF BTEX	-	-	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	-	-	-	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	-	-	-	-	-
Hydrocarbons																							
EPH (C10-C19)	-	-	µg/L	<250	<250	<250	<250	<250	-	-	-	-	-	<250	<250	<250	<250	<250	-	-	-	-	-
EPH (C19-C32)	-	-	µg/L	<250	<250	<250	<250	<250	-	-	-	-	-	<250	<250	<250	<250	<250	-	-	-	-	-
F1 (C6-C10)	-	-	µg/L	<100	<100	<100	<100	<100	-	-	-	-	-	<100	<100	<100	<100	<100	-	-	-	-	-
F2 (C10-C16)	-	-	µg/L	<100	<100	<100	<100	<100	-	-	-	-	-	<100	<100	<100	<100	<100	-	-	-	-	-
F3 (C16-C34)	-	-	µg/L	<250	<250	<250	<250	310	-	-	-	-	-	<250	<250	<250	<250	<250	-	-	-	-	-
F4 (C34-C50)	-	-	µg/L	<250	<250	<250	<250	530	-	-	-	-	-	<250	<250	<250	<250	<250	-	-	-	-	-
VHw (C6-C10)	-	-	µg/L	<100	<100	<100	<100	<100	-	-	-	-	-	<100	<100	<100	<100	<100	-	-	-	-	-
F1-BTEX	-	-	µg/L	<100	<100	<100	<100	<100	-	-	-	-	-	<100	<100	<100	<100	<100	-	-	-	-	-
LEPHw	-	-	µg/L	<250	<250	<250	<250	<250	-	-	-	-	-	<250	<250	<250	<250	<250	-	-	-	-	-
VPHw	-	-	µg/L	<100	<100	<100	<100	<100	-	-	-	-	-	<100	<100	<100	<100	<100	-	-	-	-	-
HEPHw	-	-	µg/L	<250	<250	<250	<250	<250	-	-	-	-	-	<250	<250	<250	<250	<250	-	-	-	-	-
TEH (C10-C50)	-	-	µg/L	<400	<400	<400	<400	840	-	-	-	-	-	<400	<400	<400	<400	<400	-	-	-	-	-
TEH (C16-C50)	-	-	µg/L	<400	<400	<400	<400	840	-	-	-	-	-	<400	<400	<400	<400	<400	-	-	-	-	-
Acenaphthene	-	-	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Acenaphthylene	-	-	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Acridine	-	-	µg/L	<0.020	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Anthracene	-	-	µg/L	<0.020	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Benz(a)anthracene	-	-	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Benzo(a)pyrene	-	-	µg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	-	-	-	-	-	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	-	-	-	-	-
Benzo(b+j)fluoranthene	-	-	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Benzo(b+j+k)fluoranthene	-	-	µg/L	<0.015	<0.015	<0.015	<0.015	<0.015	-	-	-	-	-	<0.015	<0.015	<0.015	<0.015	<0.015	-	-	-	-	-
Benzo(g,h,i)perylene	-	-	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Benzo(k)fluoranthene	-	-	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Chrysene	-	-	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Dibenz(a,h)anthracene	-	-	µg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	-	-	-	-	-	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	-	-	-	-	-
Fluoranthene	-	-	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Fluorene	-	-	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Indeno(1,2,3-c,d)pyrene	-	-	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Methylnaphthalene, 1-	-	-	µg/L	0.046	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Methylnaphthalene, 2-	-	-	µg/L	0.058	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Naphthalene	**1.4**	-	µg/L	<0.050	<0.050	<0.050	<0.050	<0.050	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	-	-	-	-	-
Phenanthrene	-	-	µg/L	0.036	<0.020	<0.020	<0.020	<0.020	-	-	-	-	-	<0.020	<0.020	<0.020	<0.020	<0.020	-	-	-	-	-
Pyrene	-	-	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	-	-	-
Quinoline	-	-	µg/L	<0.050	<0.050	<0.050	<0.050	<0.050	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	-	-	-	-	-
PAHs, Low molecular weight (BC AWQ) [1,2]	-	-	µg/L	0.09	<0.06	<0.06	<0.06	<0.06	-	-	-	-	-	<0.06	<0.06	<0.06	<0.06	<0.06	-	-	-	-	-
PAHs, High molecular weight (BC AWQ) [1,3]	-	-	µg/L	<0.095	<0.095	<0.095	<0.095	<0.095	-	-	-	-	-	<0.095	<0.095	<0.095	<0.095	<0.095	-	-	-	-	-
PAHs, total (EPA 16) [5]	-	-	µg/L	0.415	<0.295	<0.295	<0.295	<0.295	-	-	-	-	-	<0.295	<0.295	<0.295	<0.295	<0.295	-	-	-	-	-

Notes:

(VI) - hexavalent chromium

BTEX = benzene, toluene, ethylbenzene and xylene; CCME = Canadian Council of Ministers for the Environment; F1, F2, F3. F4 - Fractions of hydrocarbons; mg/L = milligrams per liter; MP-05 - monitoring stations west of the ore dock, downstream from the MP-05 discharge in a radial design; MP-06 - monitoring stations east of the ore dock; N = nitrogen; NA = not applicable; NC = not calculated; NTU = Nephelometric Turbidity Units; pH = scale of acidity; psu = practical salinity units; VHC = volatile hydrocarbons; VOCs = volatile organic compounds; µg/L = microgram per liter; µS/cm = milliSiemens per centimeter; "-" = no value; "<" = less than detection limit.

1 Sum of all compounds analyzed in the chemical class, values below the method detection limit were assigned a value of the detection limit.

2 Low molecular weight PAHs are comprised of acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene

3 High molecular weight PAHs are comprised of benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(b+j+k)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, indeno(1,2,3-c,d)pyrene, and pyrene

4 Based on Federal Environmental Quality Guidelines (FEQG) for total xylene (ECCC 2024).

5 Total PAHs are comprised of Acenaphthene, Acenaphthylene, Acridine, Anthracene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(b+j)fluoranthene, Benzo(b+j+k)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-c,d)pyrene, Methylnaphthalene, 1-, Methylnaphthalene, 2-, Naphthalene, Phenanthrene, Pyrene, and Quinoline

CCME MARINE - LONG TERM GUIDELINE EXCEEDANCE
CCME MARINE - SHORT TERM GUIDELINE EXCEEDANCE

APPENDIX 2D

QA/QC Results

1.0 QAQC RESULTS

This appendix describes the QAQC results for surface water sampled for the 2024 MEEMP conducted at Milne Port and in Milne Inlet during the 2024 open-water season. Water quality samples were collected during five sampling events scheduled between 30 July and 18 August 2024, to monitor for potential changes in water quality associated with site drainage and treated effluent discharges to the marine environment (including iron ore stockpile run-off). Samples were collected to align with the confirmed active site discharges.

Most chemical analyses on surface water samples were completed within the sample hold time requirements, with the exception of some hold time exceedances for parameters such as pH, turbidity, DOC, nitrite, nitrate, total dissolved phosphorus, and TSS/TDS (Table 1). Although some sample hold time exceedances were documented, the hold times for the parameters in question are relatively short. Given the remote location of the site, such exceedances were unavoidable. The data should still be comparable to previous yearly measurements as similar issues with hold time exceedances have been encountered.

Table 1. Hold time requirements for discrete water quality samples collected at MP-05 and MP-06 marine discharge sites.

Analysis	Hold Times	Exceeded Hold Times?	Actual Time
General (pH, Alkalinity, Turbidity, Conductivity, Anions, TSS, DOC, TDS, TOC, Ammonia, TKN, Hardness, Salinity)	15 minutes for pH 3 days for NO_2, NO_3, Turbidity, DOC, Total Dissolved Phosphorus 7 days for TSS/TDS 14 days for Alkalinity 28 days for Ammonia, Salinity, TKN	Yes – pH, Turbidity, DOC, Nitrite (NO_2), Nitrate (NO_3), Total Dissolved Phosphorus, and TSS/TDS	pH – 94 to 247 hours Turbidity, DOC – 4 to 9 days NO_2, NO_3 – 4 to 10 days Total Dissolved Phosphorus – 4 to 9 days TSS/TDS – 8 to 9 days
Total Metals	6 months	No	N/A
Dissolved Metals	6 months	No	N/A
Total Mercury	28 days	No	N/A
Dissolved mercury	28 days	No	N/A
Petroleum hydrocarbons (BTEX/MTBE/F1)	14 days	No	N/A
Hydrocarbons (LEPH/HEPH), F2-F4, PAHs	14 days	No	N/A
Nutrients (including total phosphorus)	28 days	No	N/A

ALS is certified by the Canadian Association for Laboratory Accreditation (CALA) for the analyses conducted. The analytical laboratory also incorporated and reported the results of internal QA/QC checks. These were used to assess the reliability and reproducibility of the data. Reports from the laboratory are provided in Appendix 2B and were reviewed by WSP. Data reported by the laboratory were considered reliable according to the accredited laboratory QA/QC assessment.

From the field blanks collected during the field program, measured concentrations were generally all less than the analytical detection limit (Appendix D - Table D1). All parameters met QAQC requirements, and field blank concentrations were less than 5-times the detection limit in all field blanks.

To demonstrate that the samples and analytical results can be considered valid, representative, and reproducible, five field duplicate samples were collected. The RPD between field duplicate sample results was used to assess duplicate sample data. The RPD is a measure of the variability between two outcomes from the same procedure or process and is calculated as:

$$RPD = \frac{absolute\ value\ (sample\ concentration - duplicate\ concentration)}{mean\ concentration} \times 100$$

An RPD less than 20% for inorganic parameters in water is considered acceptable (BC ENV 2020). The QA/QC results of field RPDs are provided in Appendix D - Table D2. All samples met RDP data quality objectives with the exception of:

- Duplicate B and its parent sample MP-05 North (sampled 6 August 2024) had a RPD percentage of 23% for conductivity, 24% for total dissolved solids (TDS), 24% for salinity, 27% for chloride, and 24% for sulphate.
- Duplicate C and its parent sample MP-05 ENE (sampled 12 August 2024) had a RPD percentage of 71% for total copper.

The QA/QC results indicate that the water chemistry data collected during the 2024 MEEMP were of acceptable quality.

Table D1 - Results of Water Quality QAQC Field Blank Sample Results
Milne Port, 2024

Sample ID Date Sampled Laboratory ID	Units	Reported Detection Limit (RDL)	MLP-01 30-Jul-2024 VA24B9271-010	MPL-02 06-Aug-2024 VA24B9990-010	MLP-03 18-Aug-2024 VA24C1760-010
Field and Physical					
Alkalinity, total (as CaCO3)	mg/L	1.0	<1.0	<1.0	<1.0
Conductivity	µS/cm	2.0	<2.0	<2.0	<2.0
Hardness (as CaCO3), dissolved	mg/L	0.50	<1.00	<1.00	<1.00
Hardness (as CaCO3), from total Ca/Mg	mg/L	0.50	<1.00	<1.00	<1.00
Solids, total dissolved [TDS]	mg/L	10	<10	<10	<10
Solids, total suspended [TSS]	mg/L	2.0	<2.0	<2.0	<2.0
Turbidity	NTU	0.10	<0.10	<0.10	<0.10
pH	pH units	0.10	5.44	5.79	5.49
Salinity	psu	1.0	<1.0	<1.0	<1.0
Anions and Nutrients					
Ammonia, total (as N)	mg/L	0.0050	<0.0050	0.0053	0.0052
Bromide	mg/L	5.0	<5.0	<5.0	<5.0
Chloride	mg/L	50	<50	<50	<50
Fluoride	mg/L	0.20	<0.20	<0.20	<0.20
Kjeldahl nitrogen, total [TKN]	mg/L	0.050	<0.050	<0.050	0.051
Nitrate (as N)	mg/L	0.010	0.012	<0.010	<0.010
Nitrite (as N)	mg/L	0.010	<0.010	<0.010	<0.010
Phosphorus, total	mg/L	0.0020	<0.0040	<0.0020	0.004
Phosphorus, total dissolved	mg/L	0.0020	-	<0.0020	<0.0020
Sulfate (as SO4)	mg/L	3.0	<3.0	<3.0	<3.0
Carbon, dissolved organic [DOC]	mg/L	0.50	<0.50	<0.50	<0.50
Carbon, total organic [TOC]	mg/L	0.50	<0.50	<0.50	<0.50
Metals, Total					
Aluminum	mg/L	0.0050	<0.0050	<0.0050	<0.0050
Antimony	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Arsenic	mg/L	0.00040	<0.00040	<0.00040	<0.00040
Barium	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Beryllium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Bismuth	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Boron	mg/L	0.30	<0.30	<0.30	<0.30
Cadmium	mg/L	0.000020	<0.000020	<0.000020	<0.000020
Calcium	mg/L	1.0	<1.0	<1.0	<1.0
Cesium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Chromium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Cobalt	mg/L	0.000050	<0.000050	<0.000050	<0.000050
Copper	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Gallium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Iron	mg/L	0.010	<0.010	<0.010	<0.010
Lead	mg/L	0.00010	<0.00010	<0.00010	<0.00010
Lithium	mg/L	0.020	<0.020	<0.020	<0.020
Magnesium	mg/L	1.0	<1.0	<1.0	<1.0
Manganese	mg/L	0.00020	<0.00020	<0.00020	<0.00020
Mercury	mg/L	0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum	mg/L	0.00010	<0.00010	<0.00010	<0.00010
Nickel	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Phosphorus	mg/L	0.050	<0.050	<0.050	<0.050
Potassium	mg/L	1.0	<1.0	<1.0	<1.0
Rhenium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Rubidium	mg/L	0.0050	<0.0050	<0.0050	<0.0050
Selenium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Silicon	mg/L	1.0	<1.0	<1.0	<1.0
Silver	mg/L	0.00010	<0.00010	<0.00010	<0.00010
Sodium	mg/L	2.5	<2.5	<2.5	<2.5
Strontium	mg/L	0.010	<0.010	<0.010	<0.010
Sulphur (Colloidal)	mg/L	5.0	<5.0	<5.0	<5.0
Tellurium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Thallium	mg/L	0.000050	<0.000050	<0.000050	<0.000050
Thorium-232	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Tin	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Titanium	mg/L	0.0050	<0.0050	<0.0050	<0.0050
Tungsten	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Uranium	mg/L	0.000050	<0.000050	<0.000050	<0.000050
Vanadium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Yttrium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Zinc	mg/L	0.0030	<0.0030	<0.0030	<0.0030
Zirconium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Metals, Dissolved					
Aluminum (Al)	mg/L	0.0050	<0.0050	<0.0050	<0.0050
Antimony (Sb)	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Arsenic (As)	mg/L	0.00040	<0.00040	<0.00040	<0.00040
Barium (Ba)	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Beryllium (Be)	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Bismuth (Bi)	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Boron (B)	mg/L	0.30	<0.30	<0.30	<0.30
Cadmium (Cd)	mg/L	0.000020	<0.000020	<0.000020	<0.000020
Calcium (Ca)	mg/L	1.0	<1.0	<1.0	<1.0
Cesium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Chromium (Cr)	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Cobalt (Co)	mg/L	0.000050	<0.000050	<0.000050	<0.000050
Copper (Cu)	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Gallium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Iron (Fe)	mg/L	0.010	<0.010	<0.010	<0.010
Lead (Pb)	mg/L	0.00010	<0.00010	<0.00010	<0.00010
Lithium (Li)	mg/L	0.020	<0.020	<0.020	<0.020
Magnesium (Mg)	mg/L	1.0	<1.0	<1.0	<1.0
Manganese (Mn)	mg/L	0.00010	<0.00010	<0.00010	<0.00010
Mercury (Hg)	mg/L	0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum (Mo)	mg/L	0.00010	<0.00010	<0.00010	<0.00010
Nickel (Ni)	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Phosphorus (P)	mg/L	0.050	<0.050	<0.050	<0.050
Potassium (K)	mg/L	1.0	<1.0	<1.0	<1.0
Rhenium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Rubidium	mg/L	0.0050	<0.0050	<0.0050	<0.0050
Selenium (Se)	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Silicon	mg/L	1.0	<1.0	<1.0	<1.0
Silver (Ag)	mg/L	0.00010	<0.00010	<0.00010	<0.00010
Sodium (Na)	mg/L	2.5	<2.5	<2.5	<2.5
Strontium (Sr)	mg/L	0.010	<0.010	<0.010	<0.010
Sulfur (S)	mg/L	5.0	<5.0	<5.0	<5.0
Tellurium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Thallium (Tl)	mg/L	0.000050	<0.000050	<0.000050	<0.000050
Thorium-232	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Tin (Sn)	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Titanium (Ti)	mg/L	0.0050	<0.0050	<0.0050	<0.0050
Tungsten (W)	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Uranium (U)	mg/L	0.000050	<0.000050	<0.000050	<0.000050
Vanadium (V)	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Yttrium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Zinc (Zn)	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Zirconium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
VOCs and BTEX					
Benzene	µg/L	0.50	-	<0.50	-
Ethylbenzene	µg/L	0.50	-	<0.50	-
Methyl-tert-butyl ether [MTBE]	µg/L	0.50	-	<0.50	-
Styrene	µg/L	0.50	-	<0.50	-
Toluene	µg/L	0.50	-	<0.50	-
Xylene, m+p-	µg/L	0.40	-	<0.40	-
Xylene, o-	µg/L	0.30	-	<0.30	-
Xylenes, total	µg/L	0.50	-	<0.50	-
Hydrocarbons					
Petroleum Hydrocarbons - F1 (C6-C10)	µg/L	100	-	<100	-
Petroleum Hydrocarbons - F2 (C10-C16)	µg/L	100	-	<100	-
Petroleum Hydrocarbons - F3 (C16-C34)	µg/L	250	-	<250	-
Petroleum Hydrocarbons - F4 (C34-C50)	µg/L	250	-	<250	-
Acenaphthene	µg/L	0.010	-	<0.010	-
Acenaphthylene	µg/L	0.010	-	<0.010	-
Acridine	µg/L	0.010	-	<0.010	-
Anthracene	µg/L	0.010	-	<0.010	-
Benz(a)anthracene	µg/L	0.010	-	<0.010	-
Benzo(a)pyrene	µg/L	0.0050	-	<0.0050	-
Benzo(b,j) fluoranthene	µg/L	0.010	-	<0.010	-
Benzo[b,j,k]fluoranthene	µg/L	0.015	-	<0.015	-
Benzo(g,h,i)perylene	µg/L	0.010	-	<0.010	-
Benzo(k)fluoranthene	µg/L	0.010	-	<0.010	-
Chrysene	µg/L	0.010	-	<0.010	-
Dibenz(a,h)anthracene	µg/L	0.0050	-	<0.0050	-
Fluoranthene	µg/L	0.010	-	<0.010	-
Fluorene	µg/L	0.010	-	<0.010	-
Indeno(1,2,3-c,d)pyrene	µg/L	0.010	-	<0.010	-
Methylnaphthalene, 1-	µg/L	0.010	-	<0.010	-
Methylnaphthalene, 2-	µg/L	0.010	-	<0.010	-
Naphthalene	µg/L	0.050	-	<0.050	-
Phenanthrene	µg/L	0.020	-	<0.020	-
Pyrene	µg/L	0.010	-	<0.010	-
Quinoline	µg/L	0.050	-	<0.050	-
VHCs					
Volatile Hydrocarbons (C6-C10)	µg/L	100	-	<100	-
Volatile Petroleum Hydrocarbons (C6-C10)	µg/L	100	-	<100	-

Notes:
BTEX = benzene, toluene, ethylbenzene and xylene; F1, F2, F3. F4 - Fractions of hydrocarbons; mg/L = milligrams per liter; N = nitrogen;NTU - Nephelometric Turbidity Units; pH = scale of acidity; psu = practical salinity units; VHC = volatile hydrocarbons; VOCs = volatile organic compounds; µg/L = microgram per liter; µS/cm = milliSiemens per centimeter; "-" = no value; "<" = less than detection limit.

Difference factor (DF) = absolute difference between two values divided by the method detection limit. The DF is calculated when the concentration is less than five times the detection limit.
Acceptable DF is less than or equal to 5.0.

Bold values indicate an exceedance of the acceptable RPD or DF.

Table D2 - Results of Water Quality QAQC Duplicate Sample Results
Milne Port, 2024

Sample ID	Units	MP-06 WNW	DUP-A	Reported Detection Limit	Mean	Relative Percent Difference (RPD)	Difference Factor (DF)	MP-05-North	Dup-B	Reported Detection Limit	Mean	Relative Percent Difference (RPD)	Difference Factor (DF)	MP-05 ENE	Dup-C	Reported Detection Limit	Mean	Relative Percent Difference (RPD)	Difference Factor (DF)	MP-06 ENE	DUP-D	Reported Detection Limit	Mean	Relative Percent Difference (RPD)	Difference Factor (DF)	MP-05 WNW	Dup-E	Reported Detection Limit	Mean	Relative Percent Difference (RPD)	Difference Factor (DF)
Date Sampled		30-Jul-2024	30-Jul-2024					06-Aug-2024	06-Aug-2024					12-Aug-2024	12-Aug-2024					15-Aug-2024	15-Aug-2024					18-Aug-2024	18-Aug-2024				
Laboratory ID		VA24B9271-008	VA24B9271-009					VA24B9990-002	VA24B9990-009					VA24C0615-003	VA24C0615-009					YL2401213-007	YL2401213-009					VA24C1760-004	VA24C1760-009				
QA/QC		FDA	FD					FDA	FD					FDA	FD					FDA	FD					FDA	FD				
Field and Physical																															
Alkalinity, total (as CaCO3)	mg/L	109	109	1.0	109	0%	NA	85.2	84.4	1.0	85	1%	NA	107	107	1.0	107	0%	NA	108	108	1.0	108	0%	NA	103	104	1.0	104	1%	NA
Conductivity	µS/cm	44200	44300	2.0	44250	0%	NA	13300	10600	2.0	11950	**23%**	NA	44100	43900	2.0	44000	0%	NA	45800	45100	2.0	45450	2%	NA	40300	40500	2.0	40400	0%	NA
Hardness (as CaCO3), dissolved	mg/L	5270	5260	0.50	5265	0%	NA	1270	1240	0.50	1255	2%	NA	5560	5340	0.50	5450	4%	NA	5780	5830	0.50	5805	1%	NA	4670	4820	0.50	4745	3%	NA
Hardness (as CaCO3), from total Ca/Mg	mg/L	5530	5610	0.50	5570	1%	NA	1030	1050	0.50	1040	2%	NA	5440	5460	0.50	5450	0%	NA	5180	5100	0.50	5140	2%	NA	4780	4670	0.50	4725	2%	NA
Solids, total dissolved [TDS]	mg/L	34200	34400	10	34300	1%	NA	9020	7120	10	8070	**24%**	NA	39700	43600	10	41650	9%	NA	36600	37000	10	36800	1%	NA	30300	31100	10	30700	3%	NA
Solids, total suspended [TSS]	mg/L	<2.0	<2.0	2.0	NC	NC	NC	<2.0	<2.0	2.0	NC	NC	NC	2.4	<2.0	2.0	NC	NC	NC	<2.0	<2.0	2.0	NC	NC	NC	2.6	<2.0	2.0	NC	NC	NC
Turbidity	NTU	<0.10	0.14	0.10	NC	NC	NC	0.29	0.36	0.10	0.33	NA	0.7	0.28	0.31	0.10	0.3	NA	0.3	0.2	0.2	0.10	0.2	NA	0.0	0.41	0.33	0.10	0.4	NA	0.8
pH	pH units	8.02	8.02	0.10	8.02	0%	NA	8.08	8.10	0.10	8.09	0%	NA	8.04	8.05	0.10	8.05	0%	NA	8.04	8.04	0.10	8.04	0%	NA	7.95	7.94	0.10	7.95	0%	NA
Salinity	psu	29.5	29.6	1.0	30	0%	NA	7.9	6.2	1.0	7.1	**24%**	NA	29.2	29.1	1.0	29.2	0%	NA	30.8	30.2	1.0	30.5	2%	NA	26.9	27	1.0	27.0	0%	NA
Anions and Nutrients																															
Ammonia, total (as N)	mg/L	0.0086	0.0097	0.0050	0.009	NA	0.2	0.0054	<0.0050	0.0050	NC	NC	NC	0.0057	0.008	0.0050	0.007	NA	0.5	0.0094	0.0059	0.0050	0.0077	NA	0.7	<0.0050	<0.0050	0.0050	NC	NC	NC
Bromide	mg/L	55.4	55.6	5.0	55.5	0%	NA	15.1	11.3	5.0	13.2	NA	0.8	55.7	55.9	5.0	55.8	0%	NA	56.0	56.5	5.0	56.3	1%	NA	53.2	50.0	5.0	51.6	6%	NA
Chloride	mg/L	16200	16200	50	16200	0%	NA	4160	3170	50	3665	**27%**	NA	16600	16600	50	16600	0%	NA	16800	16900	50	16850	1%	NA	15400	14500	50	14950	6%	NA
Fluoride	mg/L	0.68	0.71	0.20	0.7	NA	0.2	0.22	<0.20	0.20	NC	NC	NC	0.75	0.77	0.20	0.8	NA	0.1	1.01	1	0.20	1.0	1%	NA	0.92	0.84	0.20	0.9	NA	0.4
Kjeldahl nitrogen, total [TKN]	mg/L	0.084	0.098	0.050	0.1	NA	0.3	0.091	<0.050	0.050	NC	NC	NC	0.1	0.102	0.050	0.1	NA	0.0	0.1	0.108	0.050	0.1	NA	0.2	0.064	0.076	0.050	0.1	NA	0.2
Nitrate (as N)	mg/L	<0.010	<0.010	0.010	NC	NC	NC	0.034	0.03	0.010	0.03	NA	0.4	0.011	<0.010	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC
Nitrite (as N)	mg/L	<0.010	<0.010	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC
Phosphorus, total	mg/L	0.0216	0.0216	0.0020	0.0216	0%	NA	0.0088	0.0104	0.0020	0.0096	17%	NA	0.0227	0.0227	0.0020	0.023	0%	NA	0.0253	0.0264	0.0020	0.026	4%	NA	0.0189	0.0191	0.0020	0.019	1%	NA
Phosphorus, dissolved	mg/L	-	-	-	NC	NC	NC	0.0086	0.0069	0.0020	0.0078	NA	0.9	0.0263	0.0224	0.0020	0.024	16%	NA	0.0247	0.0248	0.0020	0.025	0%	NA	0.0185	0.0203	0.0020	0.019	9%	NA
Sulfate (as SO4)	mg/L	2190	2190	3.0	2190	0%	NA	574	449	3.0	512	**24%**	NA	2250	2260	3.0	2255	0%	NA	2320	2320	3.0	2320	0%	NA	2050	1940	3.0	1995	6%	NA
Carbon, dissolved organic [DOC]	mg/L	0.95	0.96	0.50	1.0	NA	0.02	1.02	1.08	0.50	1.1	NA	0.1	0.87	0.83	0.50	0.85	NA	0.1	0.88	0.85	0.50	0.87	NA	0.1	0.92	1.19	0.50	1.06	NA	0.5
Carbon, total organic [TOC]	mg/L	0.91	0.91	0.50	0.9	NA	0.0	1.14	1.13	0.50	1.1	NA	0.0	0.93	0.78	0.50	0.86	NA	0.3	1.08	1.03	0.50	1.06	NA	0.1	1.04	1.11	0.50	1.08	NA	0.1
Metals, Total																															
Aluminum	mg/L	<0.0050	<0.0050	0.0050	NC	NC	NC	0.0072	0.0098	0.0050	0.01	NA	0.5	<0.0050	0.0054	0.0050	NC	NC	NC	0.0122	0.0099	0.0050	0.01	NA	0.5	0.0137	0.0142	0.0050	0.01	NA	0.1
Antimony	mg/L	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC
Arsenic	mg/L	0.00374	0.00374	0.00040	0.004	0%	NA	0.00107	0.00113	0.00040	0.0011	NA	0.2	0.00386	0.00406	0.00040	0.0040	5%	NA	0.00357	0.00355	0.00040	0.004	1%	NA	0.0032	0.00325	0.00040	0.003	2%	NA
Barium	mg/L	0.0082	0.0078	0.0010	0.008	5%	NA	0.0045	0.0044	0.0010	0.004	NA	0.1	0.0079	0.0083	0.0010	0.01	5%	NA	0.0084	0.0083	0.0010	0.01	1%	NA	0.0082	0.0082	0.0010	0.01	0%	NA
Beryllium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Bismuth	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Boron	mg/L	4.23	4.15	0.30	4.19	2%	NA	0.64	0.74	0.30	0.69	NA	0.3	3.99	4.09	0.30	4.0	2%	NA	3.79	3.73	0.30	3.76	2%	NA	3.7	3.53	0.30	3.62	5%	NA
Cadmium	mg/L	0.000032	0.000034	0.000020	0.000	NA	0.1	<0.000020	<0.000020	0.000020	NC	NC	NC	0.000034	0.000027	0.000020	0.00003	NA	0.4	0.000041	0.00003	0.000020	0.00004	NA	0.6	0.000035	0.000031	0.000020	0.00003	NA	0.2
Calcium	mg/L	384	384	1.0	384	0%	NA	75.6	78.4	1.0	77	4%	NA	398	404	1.0	401	1%	NA	375	377	1.0	376	1%	NA	353	350	1.0	352	1%	NA
Cesium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Chromium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Cobalt	mg/L	0.000055	0.000054	0.000050	0.0001	NA	0.0	<0.000050	<0.000050	0.000050	NC	NC	NC	0.000058	0.000057	0.000050	0.00006	NA	0.0	0.000053	<0.000050	0.000050	NC	NC	NC	0.000077	0.000062	0.000050	0.0001	NA	0.3
Copper	mg/L	0.00597	0.00548	0.00050	0.006	9%	NA	0.00166	0.0018	0.00050	0.0017	NA	0.3	0.00271	0.00129	0.00050	0.002	**71%**	NA	0.00252	0.00272	0.00050	0.003	8%	NA	<0.00050	0.00062	0.00050	NC	NC	NC
Gallium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Iron	mg/L	<0.010	<0.010	0.010	NC	NC	NC	<0.010	0.011	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	0.023	0.019	0.010	0.02	NA	0.4
Lead	mg/L	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC
Lithium	mg/L	0.162	0.157	0.020	0.16	3%	NA	0.026	0.026	0.020	0.03	NA	0.0	0.147	0.153	0.020	0.150	4%	NA	0.173	0.168	0.020	0.17	3%	NA	0.157	0.154	0.020	0.16	2%	NA
Magnesium	mg/L	1110	1130	1.0	1120	2%	NA	204	208	1.0	206	2%	NA	1080	1080	1.0	1080	0%	NA	1030	1010	1.0	1020	2%	NA	947	921	1.0	934	3%	NA
Manganese	mg/L	0.0006	0.00054	0.00020	0.001	NA	0.3	0.00077	0.00073	0.00020	0.001	NA	0.2	0.00085	0.00088	0.00020	0.001	NA	0.2	0.00064	0.00062	0.00020	0.001	NA	0.1	0.00114	0.00099	0.00020	0.00107	14%	NA
Mercury	mg/L	<0.0000050	<0.0000050	0.0000050	NC	NC	NC	<0.0000050	<0.0000050	0.0000050	NC	NC	NC	<0.0000050	<0.0000050	0.0000050	NC	NC	NC	<0.0000050	<0.0000050	0.0000050	NC	NC	NC	<0.0000050	<0.0000050	0.0000050	NC	NC	NC
Molybdenum	mg/L	0.00886	0.00854	0.00010	0.01	4%	NA	0.00171	0.00165	0.00010	0.002	4%	NA	0.00848	0.00882	0.00010	0.009	4%	NA	0.00894	0.00905	0.00010	0.01	1%	NA	0.00776	0.00777	0.00010	0.008	0%	NA
Nickel	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Phosphorus	mg/L	<0.050	<0.050	0.050	NC	NC	NC	<0.050	<0.050	0.050	NC	NC	NC	<0.050	<0.050	0.050	NC	NC	NC	<0.050	<0.050	0.050	NC	NC	NC	<0.050	<0.050	0.050	NC	NC	NC
Potassium	mg/L	338	340	1.0	339	1%	NA	57.8	59.7	1.0	59	3%	NA	341	355	1.0	348	4%	NA	340	343	1.0	342	1%	NA	281	277	1.0	279	1%	NA
Rhenium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Rubidium	mg/L	0.0925	0.0893	0.0050	0.09	4%	NA	0.017	0.0168	0.0050	0.02	NA	0.0	0.0896	0.0952	0.0050	0.092	6%	NA	0.0934	0.0931	0.0050	0.09	0%	NA	0.0796	0.0824	0.0050	0.08	3%	NA
Selenium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	0.00052	0.00051	0.00050	0.0005	NA	0.0	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Silicon	mg/L	<1.0	<1.0	1.0	NC	NC	NC	<1.0	<1.0	1.0	NC	NC	NC	<1.0	<1.0	1.0	NC	NC	NC	<1.0	<1.0	1.0	NC	NC	NC	<1.0	<1.0	1.0	NC	NC	NC
Silver	mg/L	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC
Sodium	mg/L	8310	8710	2.5	8510	5%	NA	1480	1510	2.5	1495	2%	NA	8890	9050	2.5	8970	2%	NA	9260	9320	2.5	9290	1%	NA	7730	7560	2.5	7645	2%	NA
Strontium	mg/L	6.29	6.0	0.010	6.15	5%	NA	1.12	1.12	0.010	1.12	0%	NA	6.02	6.25	0.010	6.14	4%	NA	6.29	6.21	0.010	6.25	1%	NA	5.31	5.47	0.010	5.39	3%	NA
Sulphur (Colloidal)	mg/L	772	740	5.0	756	4%	NA	126	127	5.0	127	1%	NA	779	824	5.0	802	6%	NA	773	742	5.0	758	4%	NA	749	685	5.0	717	9%	NA
Tellurium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Thallium	mg/L	<0.000050	<0.000050	0.000050	NC	NC	NC	<0.000050	<0.000050	0.000050	NC	NC	NC	<0.000050	<0.000050	0.000050	NC	NC	NC	<0.000050	<0.000050	0.000050	NC	NC	NC	<0.000050	<0.000050	0.000050	NC	NC	NC
Thorium-232	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Tin	mg/L	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC
Titanium	mg/L	<0.0050	<0.0050	0.0050	NC	NC	NC	<0.0050	<0.0050	0.0050	NC	NC	NC	<0.0050	<0.0050	0.0050	NC	NC	NC	<0.0050	<0.0050	0.0050	NC	NC	NC	<0.0050	<0.0050	0.0050	NC	NC	NC
Tungsten	mg/L	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC
Uranium	mg/L	0.00295	0.00276	0.000050	0.003	7%	NA	0.00134	0.00131	0.000050	0.001	2%	NA	0.00291	0.00308	0.000050	0.003	6%	NA	0.00269	0.0027	0.000050	0.0027	0%	NA	0.00279	0.00277	0.000050	0.003	1%	NA
Vanadium	mg/L	0.00111	0.00104	0.00050	0.001	NA	0.1	<0.00050	<0.00050	0.00050	NC	NC	NC	0.00096	0.001	0.00050	0.0010	NA	0.1	0.00106	0.00105	0.00050	0.001	NA	0.0	0.00086	0.0009	0.00050	0.0009	NA	0.1
Yttrium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Zinc	mg/L	<0.0030	<0.0030	0.0030	NC	NC	NC	<0.0030	<0.0030	0.0030	NC	NC	NC	<0.0030	<0.0030	0.0030	NC	NC	NC	<0.0030	<0.0030	0.0030	NC	NC	NC	<0.0030	<0.0030	0.0030	NC	NC	NC
Zirconium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Metals, Dissolved																															
Aluminum (Al)	mg/L	<0.0050	<0.0050	0.0050	NC	NC	NC	<0.0050	<0.0050	0.0050	NC	NC	NC	<0.0050	<0.0050	0.0050	NC	NC	NC	0.0058	0.0056	0.0050	0.0057	NA	0.0	<0.0050	<0.0050	0.0050	NC	NC	NC
Antimony (Sb)	mg/L	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC
Arsenic (As)	mg/L	0.00359	0.00348	0.00040	0.004	3%	NA	0.00102	0.00123	0.00040	0.0011	NA	0.5	0.00382	0.00392	0.00040	0.004	3%	NA	0.00344	0.00336	0.00040	0.003	2%	NA	0.00364	0.00397	0.00040	0.004	9%	NA
Barium (Ba)	mg/L	0.0081	0.0082	0.0010	0.01	1%	NA	0.0047	0.0047	0.0010	0.005	NA	0.0	0.0078	0.008	0.0010	0.008	3%	NA	0.0082	0.0083	0.0010	0.008	1%	NA	0.0083	0.0086	0.0010	0.008	4%	NA
Beryllium (Be)	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Bismuth (Bi)	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Boron (B)	mg/L	4.02	4.10	0.30	4.06	2%	NA	0.80	0.87	0.30	0.84	NA	0.2	3.76	3.80	0.30	3.78	1%	NA	4.14	4.25	0.30	4.20	3%	NA	3.52	3.6	0.30	3.56	2%	NA
Cadmium (Cd)	mg/L	0.000032	<0.000020	0.000020	NC	NC	NC	<0.000020	<0.000020	0.000020	NC	NC	NC	0.000024	0.000032	0.000020	0.000028	NA	0.4	0.000034	0.000031	0.000020	0.000033	NA	0.2	0.000021	0.000026	0.000020	0.000024	NA	0.3
Calcium (Ca)	mg/L	364	373	1.0	369	2%	NA	94.5	90.0	1.0	92.3	5%	NA	379	391	1.0	385	3%	NA	386	389	1.0	388	1%	NA	345	359	1.0	352	4%	NA
Cesium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Chromium (Cr)	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Cobalt (Co)	mg/L	0.000056	0.000053	0.000050	0.0001	NA	0.1	<0.000050	<0.000050	0.000050	NC	NC	NC	0.000056	0.000061	0.000050	0.0001	NA	0.1	0.00007	0.000066	0.000050	0.000068	NA	0.1	0.000056	0.000054	0.000050	0.000055	NA	0.0
Copper (Cu)	mg/L	0.00054	0.00061	0.00050	0.0006	NA	0.1	0.0008	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	0.00056	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Gallium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Iron (Fe)	mg/L	<0.010	<0.010	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC
Lead (Pb)	mg/L	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC
Lithium (Li)	mg/L	0.152	0.152	0.020	0.15	0%	NA	0.031	0.031	0.020	0.03	NA	0.0	0.148	0.147	0.020	0.148	1%	NA	0.17	0.171	0.020	0.17	1%	NA	0.152	0.157	0.020	0.15	3%	NA
Magnesium (Mg)	mg/L	1060	1050	1.0	1055	1%	NA	252	246	1.0	249	2%	NA	1120	1060	1.0	1090	6%	NA	1170	1180	1.0	1175	1%	NA	926	954	1.0	940	3%	NA
Manganese (Mn)	mg/L	0.00041	0.0004	0.00010	0.0004	NA	0.1	0.00051	0.00051	0.00010	0.001	0%	NA	0.0007	0.0007	0.00010	0.0007	0%	NA	0.00043	0.00041	0.00010	0.0004	NA	0.2	0.00064	0.00068	0.00010	0.001	6%	NA
Mercury (Hg)	mg/L	<0.0000050	<0.0000050	0.0000050	NC	NC	NC	<0.0000050	<0.0000050	0.0000050	NC	NC	NC	<0.0000050	<0.0000050	0.0000050	NC	NC	NC	<0.0000050	<0.0000050	0.0000050	NC	NC	NC	<0.0000100	<0.0000100	0.0000050	NC	NC	NC
Molybdenum (Mo)	mg/L	0.00814	0.00853	0.00010	0.01	5%	NA	0.00193	0.00195	0.00010	0.0019	1%	NA	0.00885	0.00891	0.00010	0.009	1%	NA	0.00866	0.00848	0.00010	0.01	2%	NA	0.00834	0.00822	0.00010	0.008	1%	NA
Nickel (Ni)	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Phosphorus (P)	mg/L	<0.050	<0.050	0.050	NC	NC	NC	<0.050	<0.050	0.050	NC	NC	NC	<0.050	<0.050	0.050	NC	NC	NC	<0.050	<0.050	0.050	NC	NC	NC	<0.050	<0.050	0.050	NC	NC	NC
Potassium (K)	mg/L	326	326	1.0	326	0%	NA	73.3	70.9	1.0	72	3%	NA	334	339	1.0	337	1%	NA	361	365	1.0	363	1%	NA	275	282	1.0	279	3%	NA
Rhenium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Rubidium	mg/L	0.0812	0.0826	0.0050	0.08	2%	NA	0.0207	0.02	0.0050	0.02	NA	0.1	0.0927	0.0933	0.0050	0.093	1%	NA	0.0893	0.0868	0.0050	0.1	3%	NA	0.083	0.0871	0.0050	0.09	5%	NA
Selenium (Se)	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	0.00065	0.00064	0.00050	0.0006	NA	0.0	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Silicon	mg/L	<1.0	<1.0	1.0	NC	NC	NC	<1.0	<1.0	1.0	NC	NC	NC	<1.0	<1.0	1.0	NC	NC	NC	<1.0	<1.0	1.0	NC	NC	NC	<1.0	<1.0	1.0	NC	NC	NC
Silver (Ag)	mg/L	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC	<0.00010	<0.00010	0.00010	NC	NC	NC
Sodium (Na)	mg/L	8960	9070	2.5	9015	1%	NA	1830	1860	2.5	1845	2%	NA	9140	8660	2.5	8900	5%	NA	8570	8720	2.5	8645	2%	NA	7680	7790	2.5	7735	1%	NA
Strontium (Sr)	mg/L	5.52	5.55	0.010	5.54	1%	NA	1.39	1.34	0.010	1.37	4%	NA	6.19	6.25	0.010	6.22	1%	NA	5.96	5.91	0.010	5.94	1%	NA	5.57	5.81	0.010	5.69	4%	NA
Sulfur (S)	mg/L	759	770	5.0	765	1%	NA	163	164	5.0	164	1%	NA	815	798	5.0	807	2%	NA	916	913	5.0	915	0%	NA	757	743	5.0	750	2%	NA
Tellurium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Thallium (Tl)	mg/L	<0.000050	<0.000050	0.000050	NC	NC	NC	<0.000050	<0.000050	0.000050	NC	NC	NC	<0.000050	<0.000050	0.000050	NC	NC	NC	<0.000050	<0.000050	0.000050	NC	NC	NC	<0.000050	<0.000050	0.000050	NC	NC	NC
Thorium-232	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Tin (Sn)	mg/L	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC
Titanium (Ti)	mg/L	<0.0050	<0.0050	0.0050	NC	NC	NC	<0.0050	<0.0050	0.0050	NC	NC	NC	<0.0050	<0.0050	0.0050	NC	NC	NC	<0.0050	<0.0050	0.0050	NC	NC	NC	<0.0050	<0.0050	0.0050	NC	NC	NC
Tungsten (W)	mg/L	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC
Uranium (U)	mg/L	0.00271	0.00269	0.000050	0.003	1%	NA	0.0014	0.00149	0.000050	0.00	6%	NA	0.00292	0.00305	0.000050	0.003	4%	NA	0.00275	0.00275	0.000050	0.003	0%	NA	0.00285	0.00287	0.000050	0.003	1%	NA
Vanadium (V)	mg/L	0.00097	0.00098	0.00050	0.001	NA	0.0	<0.00050	<0.00050	0.00050	NC	NC	NC	0.00104	0.00101	0.00050	0.0010	NA	0.1	0.00114	0.00107	0.00050	0.001	NA	0.1	0.00088	0.00088	0.00050	0.0009	NA	0.0
Yttrium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Zinc (Zn)	mg/L	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	0.0027	0.0023	0.0010	0.0025	NA	0.4	<0.0010	<0.0010	0.0010	NC	NC	NC
Zirconium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
VOCs and BTEX																															
Benzene	µg/L	-	-	-	-	-	-	<0.50	<0.50	0.50	NC	NC	NC	-	-	0.50	NC	NC	NC	<0.50	<0.50	0.50	NC	NC	NC	-	-	0.50	NC	NC	NC
Ethylbenzene	µg/L	-	-	-	-	-	-	<0.50	<0.50	0.50	NC	NC	NC	-	-	0.50	NC	NC	NC	<0.50	<0.50	0.50	NC	NC	NC	-	-	0.50	NC	NC	NC
Methyl-tert-butyl ether [MTBE]	µg/L	-	-	-	-	-	-	<0.50	<0.50	0.50	NC	NC	NC	-	-	0.50	NC	NC	NC	<0.50	<0.50	0.50	NC	NC	NC	-	-	0.50	NC	NC	NC
Styrene	µg/L	-	-	-	-	-	-	<0.50	<0.50	0.50	NC	NC	NC	-	-	0.50	NC	NC	NC	<0.50	<0.50	0.50	NC	NC	NC	-	-	0.50	NC	NC	NC
Toluene	µg/L	-	-	-	-	-	-	<0.50	<0.50	0.50	NC	NC	NC	-	-	0.50	NC	NC	NC	<0.50	<0.50	0.50	NC	NC	NC	-	-	0.50	NC	NC	NC
Xylene, m+p-	µg/L	-	-	-	-	-	-	<0.40	<0.40	0.40	NC	NC	NC	-	-	0.40	NC	NC	NC	<0.40	<0.40	0.40	NC	NC	NC	-	-	0.40	NC	NC	NC
Xylene, o-	µg/L	-	-	-	-	-	-	<0.30	<0.30	0.30	NC	NC	NC	-	-	0.30	NC	NC	NC	<0.30	<0.30	0.30	NC	NC	NC	-	-	0.30	NC	NC	NC
Xylenes, total	µg/L	-	-	-	-	-	-	<0.50	<0.50	0.50	NC	NC	NC	-	-	0.50	NC	NC	NC	<0.50	<0.50	0.50	NC	NC	NC	-	-	0.50	NC	NC	NC
Hydrocarbons																															
Petroleum Hydrocarbons - F1 (C6-C10)	µg/L	-	-	-	-	-	-	<100	<100	100	NC	NC	NC	-	-	100	NC	NC	NC	<100	<100	100	NC	NC	NC	-	-	100	NC	NC	NC
Petroleum Hydrocarbons - F2 (C10-C16)	µg/L	-	-	-	-	-	-	<100	<100	100	NC	NC	NC	-	-	100	NC	NC	NC	<100	<100	100	NC	NC	NC	-	-	100	NC	NC	NC
Petroleum Hydrocarbons - F3 (C16-C34)	µg/L	-	-	-	-	-	-	<250	<250	250	NC	NC	NC	-	-	250	NC	NC	NC	<250	<250	250	NC	NC	NC	-	-	250	NC	NC	NC
Petroleum Hydrocarbons - F4 (C34-C50)	µg/L	-	-	-	-	-	-	<250	<250	250	NC	NC	NC	-	-	250	NC	NC	NC	<250	<250	250	NC	NC	NC	-	-	250	NC	NC	NC
Acenaphthene	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Acenaphthylene	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Acridine	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Anthracene	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Benz(a)anthracene	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Benzo(a)pyrene	µg/L	-	-	-	-	-	-	<0.0050	<0.0050	0.0050	NC	NC	NC	-	-	0.0050	NC	NC	NC	<0.0050	<0.0050	0.0050	NC	NC	NC	-	-	0.0050	NC	NC	NC
Benzo(b,j) fluoranthene	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Benzo[b,j,k]fluoranthene	µg/L	-	-	-	-	-	-	<0.015	<0.015	0.015	NC	NC	NC	-	-	0.015	NC	NC	NC	<0.015	<0.015	0.015	NC	NC	NC	-	-	0.015	NC	NC	NC
Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Benzo(k)fluoranthene	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Chrysene	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Dibenz(a,h)anthracene	µg/L	-	-	-	-	-	-	<0.0050	<0.0050	0.0050	NC	NC	NC	-	-	0.0050	NC	NC	NC	<0.0050	<0.0050	0.0050	NC	NC	NC	-	-	0.0050	NC	NC	NC
Fluoranthene	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Fluorene	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Indeno(1,2,3-c,d)pyrene	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Methylnaphthalene, 1-	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Methylnaphthalene, 2-	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Naphthalene	µg/L	-	-	-	-	-	-	<0.050	<0.050	0.050	NC	NC	NC	-	-	0.050	NC	NC	NC	<0.050	<0.050	0.050	NC	NC	NC	-	-	0.050	NC	NC	NC
Phenanthrene	µg/L	-	-	-	-	-	-	<0.020	<0.020	0.020	NC	NC	NC	-	-	0.020	NC	NC	NC	<0.020	<0.020	0.020	NC	NC	NC	-	-	0.020	NC	NC	NC
Pyrene	µg/L	-	-	-	-	-	-	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	-	-	0.010	NC	NC	NC
Quinoline	µg/L	-	-	-	-	-	-	<0.050	<0.050	0.050	NC	NC	NC	-	-	0.050	NC	NC	NC	<0.050	<0.050	0.050	NC	NC	NC	-	-	0.050	NC	NC	NC
VHCs																															
Volatile Hydrocarbons (C6-C10)	µg/L	-	-	-	-	-	-	<100	<100	100	NC	NC	NC	-	-	100	NC	NC	NC	<100	<100	100	NC	NC	NC	-	-	100	NC	NC	NC
Volatile Petroleum Hydrocarbons (C6-C10)	µg/L	-	-	-	-	-	-	<100	<100	100	NC	NC	NC	-	-	100	NC	NC	NC	<100	<100	100	NC	NC	NC	-	-	100	NC	NC	NC

Notes:
BTEX = benzene, toluene, ethylbenzene and xylene; DF = difference factor; F1, F2, F3. F4 - Fractions of hydrocarbons; mg/L = milligrams per liter; N = nitrogen; NA = not applicable; NC = not calculated; NTU = Nephelometric Turbidity Units; pH = scale of acidity; psu = practical salinity units; RPD = releative percent difference; VHC = volatile hydrocarbons; VOCs = volatile organic compounds; µg/L = microgram per liter; µS/cm = milliSiemens per centimeter; % = percentage; "-" = no value; "<" = less than detection limit.

When different detection limits are used for the sample and duplicate results, and one detectable result is reported at a value below the detection limit of a non-detectable result, the RPD is not calculated.

Relative percent difference (RPD) = the difference between two values divided by the mean of the two values. RPD is calculated when the concentration is greater than five times the detection limit.

Acceptable RPD in water is less than or equal to 20%.
Difference factor (DF) = absolute difference between two values divided by the method detection limit. The DF is calculated when the concentration is less than five times the detection limit.

Acceptable DF is less than or equal to 5.0.
Bold values indicate an exceedance of the acceptable RPD or DF.

APPENDIX 2E

MEEMP Annual Comparison Table

Parameter	CCME Marine WQG for Protection of Aquatic Life[a]		2015 (MP-05) n = 12			2016 (MP-05) n = 20			2017 (MP-05) n = 20			2018 (MP-05) n = 20			2019 (MP-05) n = 20			2020 (MP-05 and MP-06) n = 40			2021 (MP-05 and MP-06) n = 40			2022 (MP-05 and MP-06) n = 40			2023 (MP-05 and MP-06) n = 40			2024 (MP-05 and MP-06) n = 40		
	Short Term	Long Term	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Physical																																	
pH	—	7.0–8.7	7.8	7.5	7.9	7.8	7.7	7.9	7.8	7.0	8.0	8.0	7.9	8.1	8.0	7.9	8.2	8.0	7.9	8.1	8.0	7.9	8.1	8.0	7.8	8.0	7.9	7.8	8.0	8.0	8.0	8.1
Salinity (psu)	—	Within 10% of background psu	NR	NR	NR	NR	NR	NR	13.9	4.1	24.4	8.8	5.4	19.3	20.7	6.4	31.5	8.6	4.1	29.4	16.4	1.7	30.8	17.1	2.5	32.9	18.8	1.0	31.9	24.0	1.3	31.0
TSS (mg/L)	**<25 mg/L above background**	**<5 mg/L above background**	1.2	0.5	2.2	1.6	1.0	3.0	4.2	< 2.0	**25.5**	1.4	1.0	4.3	1.3	< 2.0	2.9	3.4	< 2.0	7.5	2.5	< 2.0	7.9	2.9	< 2.0	12.2	2.1	< 2.0	3.1	2.8	<2.0	7.2
Turbidity (NTU)	**<8 NTU above background**	**<2 NTU above background**	0.2	0.1	0.9	0.4	0.1	1.0	1.1	0.3	**9.6**	0.7	0.2	**2.5**	0.3	< 0.1	0.7	0.3	< 0.1	0.7	0.5	< 0.1	1.7	0.5	< 0.10	3.3	0.4	< 0.10	1.6	0.3	<0.10	1.0
Nutrients (mg/L)																																	
Nitrate (as N)	339	45	0.04	0.03	0.2	0.16	0.05	0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.02	< 0.01	0.3	0.02	< 0.01	0.21	0.02	< 0.01	0.45	0.02	< 0.01	0.19	0.01	< 0.01	0.07
Total Metals (µg/L)																																	
Aluminum	—	—	NR	< 50	50	16	9	25	25	8	142	18	8	48	25	< 5	334	12.5	5.4	26.5	15.8	5	38.3	20.5	5	64.2	11.0	5	52.3	8.9	< 5	14.1
Arsenic	—	12.5	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	1	< 0.4	1.6	0.54	< 0.4	1.4	0.88	0.4	1.7	0.96	< 0.4	1.70	1.05	< 0.4	1.81	3.06	< 0.4	4.21
Cadmium	—	0.12	< 0.01	< 0.01	< 0.01	0.02	0.01	0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.03	< 0.01	0.05	0.01	< 0.01	0.02	0.02	< 0.01	0.05	0.02	< 0.01	0.03	0.02	< 0.02	0.03	0.03	< 0.02	0.04
Chromium	—	**1.5 (Cr[VI])**	< 10	< 10	< 10	< 10	< 10	< 10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.3	< 0.5	0.5	0.55	< 0.5	**2.4**	< 0.5	< 0.5	< 0.5	0.57	< 0.5	**1.65**	0.52	< 0.5	1.10	0.50	< 0.5	0.62
Copper	—	—	< 20	< 20	< 20	< 20	< 20	< 20	0.61	< 0.5	1	0.6	< 0.5	0.9	1.7	< 0.5	11	0.51	< 0.5	0.6	0.7	< 0.5	2.1	3.5	< 0.5	23.6	1.2	< 0.5	4.5	3.0	< 0.5	20.1
Iron	—	—	< 500	< 500	< 500	< 500	< 500	< 500	40	< 10	286	25.3	< 10	93	14	< 10	20	15.6	< 10	53	20.2	< 10	71	24.7	< 10	96	14.4	< 10	40	13.6	< 10	36
Mercury	—	**0.016**	0.01	0.01	**0.03**	< 0.013	< 0.013	< 0.013	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.003	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Silver	7.5	—	< 1	< 1	< 1	< 1	< 1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.11	< 0.1	0.25	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PAHs (µg/L)																																	
Naphthalene	—	1.4	NR	NR	NR	NR	NR	NR	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.032	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05

Notes: Bold Font = max exceeding a short term guideline or mean exceeding a long term guideline; (a) = Guidelines from CMME Marine WQG for the protection of Aquatic Life (http://ceqg-rcqe.ccme.ca/download/en/221. CCME = Canadian council of ministers of the environment; WQG = water quality guidelines; Min = minimum; Max = maximum; — = no guideline available; NR = not recorded; PSU = practical salinity unit; TSS = Total suspended solid; mg/L = milligrams per liter; < = less than; N = Nitrogen; Cr(VI) = hexavalent chromium; PAH = polycyclic aromatic hydrocarbon; µg/L = micrograms per liter; mL = milliliter.

APPENDIX 2F

Water Quality Power Analysis

1.0 POWER ANALYSIS - METHODS

A Type I error is concluding there is a significant effect when none exists (i.e., a false positive). Alpha (α) is the probability of committing a Type I error. A Type II error is the probability of concluding there is no significant effect when there is a real effect of some specified magnitude (i.e., a false negative). Beta (β) is the probability of committing a Type II error. The power of a statistical test (1 - β) is the probability of detecting a real effect. In this analysis, the Type I error-rate (α), also referred to as the significance level, was set to 0.05. The desired minimum statistical power was 80%, which corresponds to a type II error-rate of 0.2. Power analyses were conducted to assess the power of statistical tests under multiple effect sizes. For each model, a set of effect sizes was created, based on preliminary power analyses, so that power >80% was achieved at the largest absolute values of effect sizes, but also so that power is assessed at a range of effect sizes. Both negative and positive effect sizes were used, to assess the power of detecting either a reduction or an increase in values of the response variables. Since the analysis focused on assessment of changes to statistical power at different effect sizes, the power analysis used the observed samples sizes from the collected data.

1.1 Data Simulation following Effect Size Application

The power to detect statistically significant effects was estimated using residual bootstrapping in R v. 4.3.2 (R 2023), following the approach of Fox and Weisberg (2018). The general approach was to simulate data based on the model selected for interpretation, the observed sample size, and the residuals, and re-run the models that were used for the original analysis using the simulated data. The data simulation and analysis were repeated 5,000 times, and the proportion of repetitions where the *P*-values of interest were significant ($P<0.05$) was interpreted as the statistical power of the test.

To produce simulated data, the original model was used to predict values of the response variable. The predicted values were then adjusted according to the effect size, depending on the analysis (see below for details). The simulated data were then analyzed using the same model structure as the original analysis. Effect sizes and statistical tests were applied differently to different models, as detailed below.

1.2 Effect Sizes

In this power analysis, the question of interest was the models' power to detect a temporal effect at each of the two areas.

To assess the power to detect temporal trends, the effect size was applied relative to the 2023 estimates, and it was only applied to 2024 data, whereas all data collected previously only had an effect size of zero. That is, only 2024 had an effect size applied to it, and an effect size of 0% would mean that 2024 values were identical to those from 2023. This allowed assessing what effect size, relative to the values in 2023, the model would be able to identify as a significant trend. An example of the effect size application to the 2019-2024 MP-05 dataset is provided in Figure 1.

The simulated data based on effect sizes applied to values of the response variable from 2024 were combined with simulated data from previous years (with an effect size of zero). This combined dataset was analyzed using the models from the original analysis in the main report. To estimate the power to detect a temporal effect for MP-

05 data, where a continuous effect of year was used, the significance of all model terms associated with the temporal trend (i.e., main effect and interaction with Site) was assessed, and the minimum *P*-values for the parameters were retained. For the MP-06 model, there were large effect sizes between years, leading to a high proportion of the simulated data resulting in a significant interaction term regardless of the effect size applied during simulation. Therefore, to estimate the power to detect a temporal effect for MP-06 data, where a categorical effect of year was used, the significance of the pairwise comparisons between 2023 and 2024 values was assessed, and the *P*-value for the comparison was retained for the calculation of statistical power. The comparisons were calculated using the package "emmeans" (Lenth 2019) in R v. 4.3.2 (R 2023).

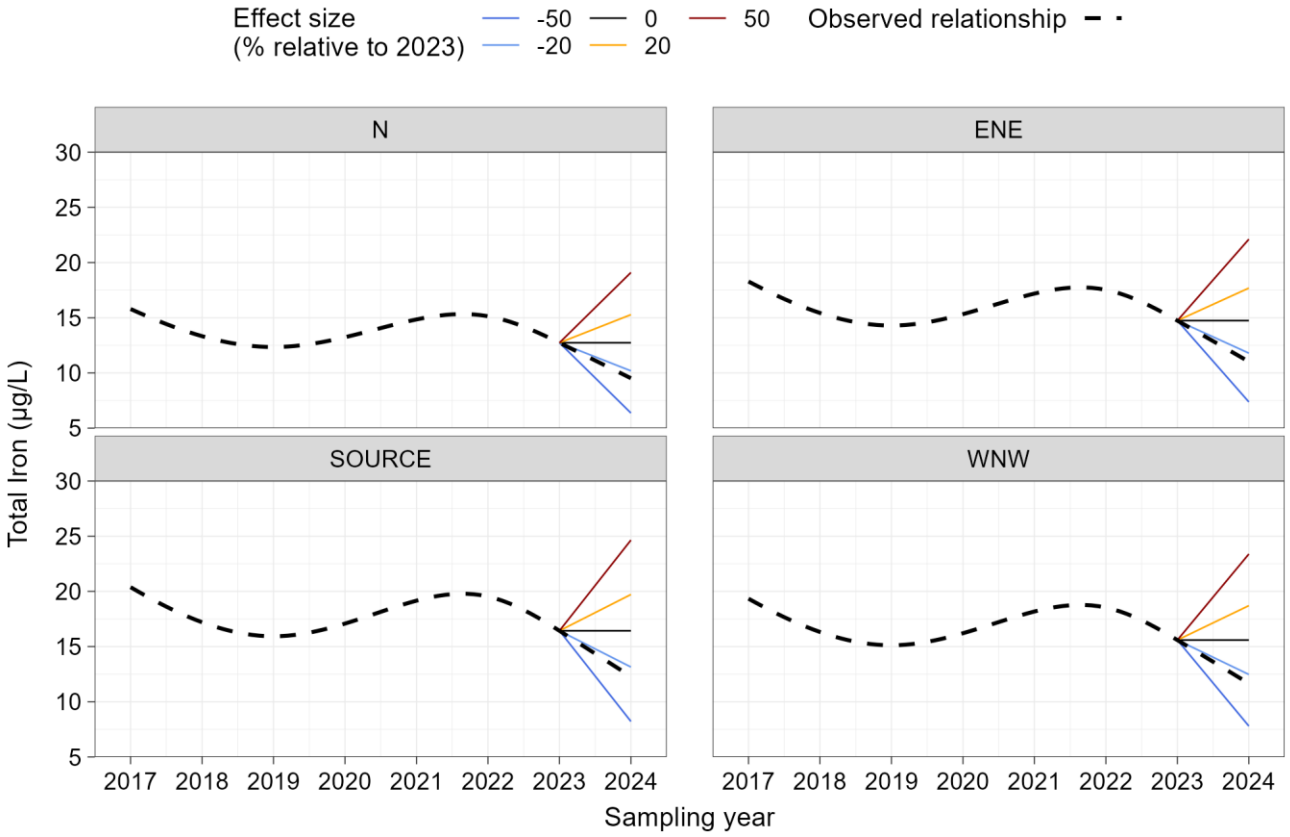


Figure 1 Application of effect sizes to examine effect of year in iron concentrations at MP-05, illustrating how effect sizes are applied relative to the 2023 estimates.

1.3 Power Analysis – Reporting of Results

Power curves were produced, showing statistical power as a function of effect size in percentages. Horizontal lines were added to visualize statistical power values of 0.8 (hereafter sufficient power) and 0.9 (hereafter high power), and a vertical line was added to visualize the maximum magnitude of differences that were observed between every two consecutive years in the original analysis.

2.0 POWER ANALYSIS – RESULTS

2.1 Iron Concentrations for the MP-05 Milne Port Site, 2017-2024

The power analysis indicated that the analysis of iron concentration data collected in 2017-2024 had sufficient power (>0.8) to detect a single-year decrease or increase in iron concentrations at effect sizes of -52% and +200%, respectively (Figure 2). The observed effect size between 2023 and 2024 was -25%. Power to detect the observed effect size was low. This is consistent with the lack of statistical significance of either the interaction or the main effect of year in the original analysis (Section 2.4.2.4 in the 2024 MEEMP main report).

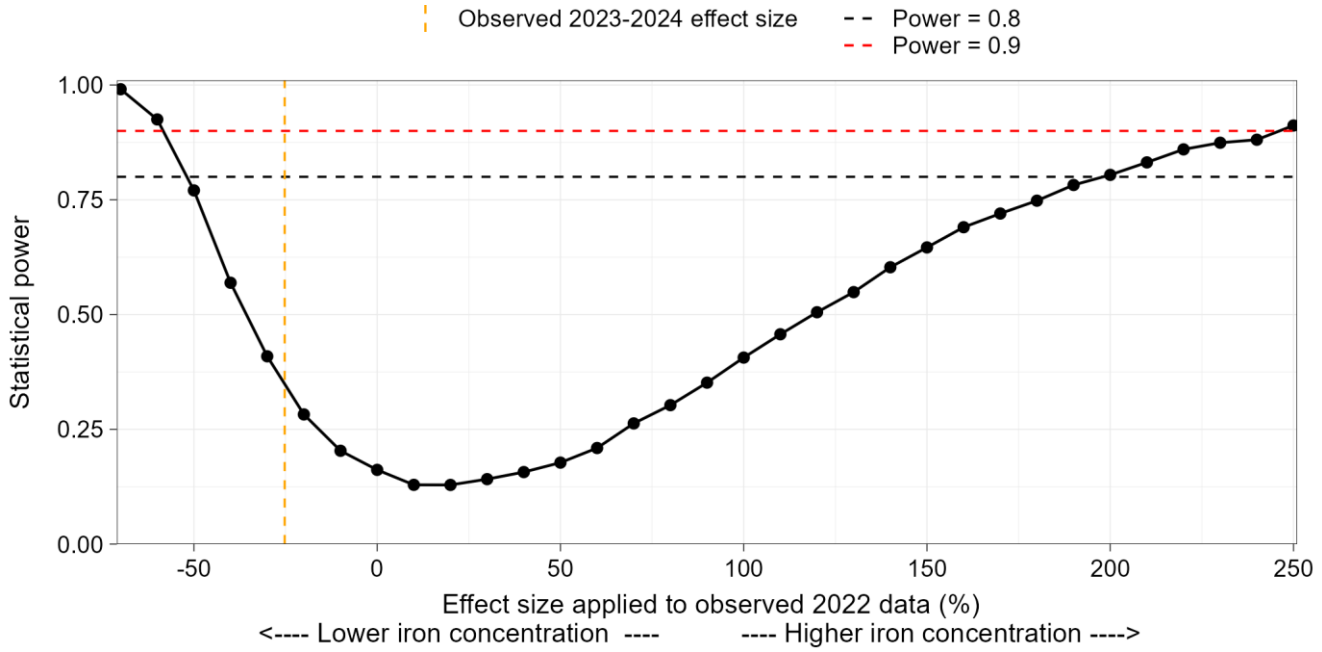


Figure 2 Statistical power of the 2017-2024 iron concentration model at MP-05 to detect a significant temporal trend.

2.2 Iron Concentrations for the MP-06 Milne Port Site, 2020-2024

The power analysis indicated that the analysis of iron concentration data collected in 2020-2024 had sufficient power (>0.8) to detect a single-year decrease or increase in iron concentrations at effect sizes of -57% and +135%, respectively (Figure 3). Observed effect sizes (comparisons between 2023 and 2024 values) were +600% for ENE, +41% for N, -5% for Source, and +64% for WNW. Power to detect the observed effect sizes was high for ENE, but low for the remaining three sites, due to the smaller effect sizes and higher variability compared to ENE data. This is consistent with the finding of a statistically significant difference between 2023 and 2024 for ENE but no other significant differences between years (Section 2.4.2.4 in the 2024 MEEMP main report).

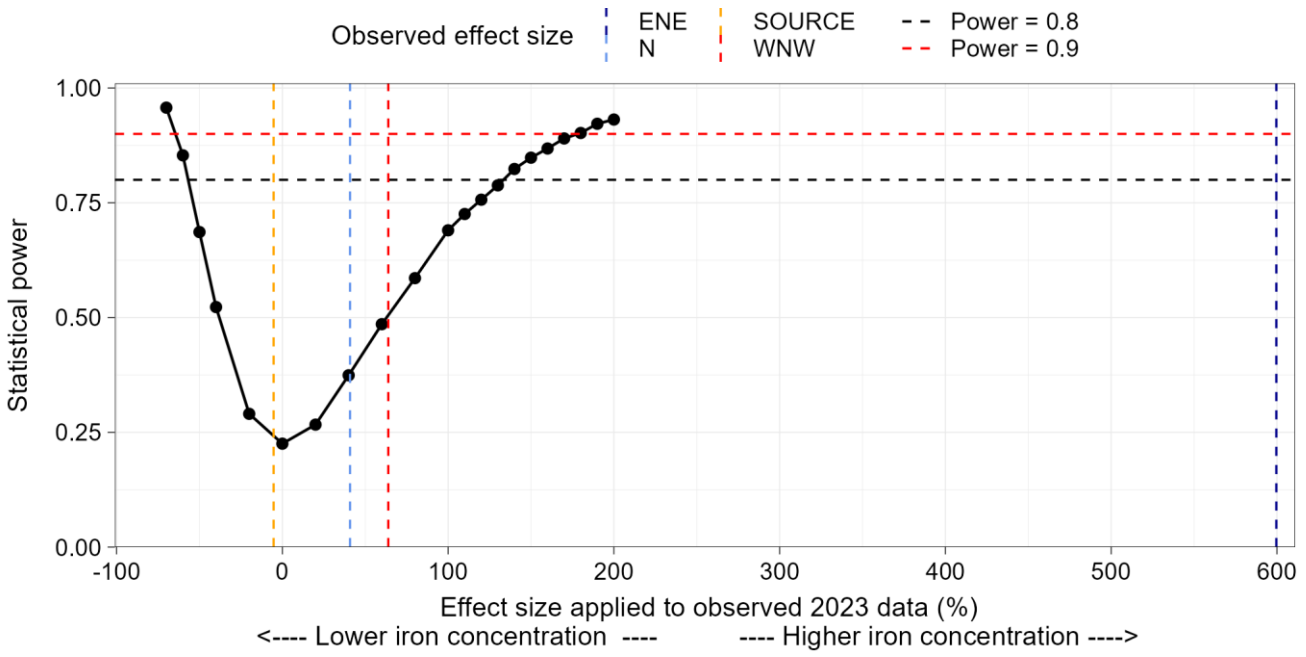


Figure 3 Statistical power of the 2020-2024 iron concentration model at MP-06 to detect a significant difference between 2023 and 2024 data.

3.0 POWER ANALYSIS – SUMMARY

3.1 Summary of Findings

- Iron concentrations, MP-05 – there was sufficient power to detect a single-year decrease or increase in iron concentrations at effect sizes of -60% and +120%, respectively.
- Iron concentrations, MP-06 – there was sufficient power to detect a single-year decrease or increase in iron concentrations at effect sizes of -60% and +150%, respectively.

Overall, the results of the power analysis presented here indicate that analyses of iron concentrations at MP-05 and MP-06 had low power to detect effect sizes that would be large enough to be ecologically relevant. Therefore, the temporal effects should be assessed using effect sizes rather than a strict adherence to statistical significance.

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REPORT

Chapter 3.0 Marine Sediment Quality

2024 Milne Port Marine Environmental Effects Monitoring Program (MEEMP) and Non-Indigenous Species/Aquatic Invasive Species (NIS/AIS) Monitoring Program

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CA0026317.6821-048-R-Rev0-86000

April 25, 2025

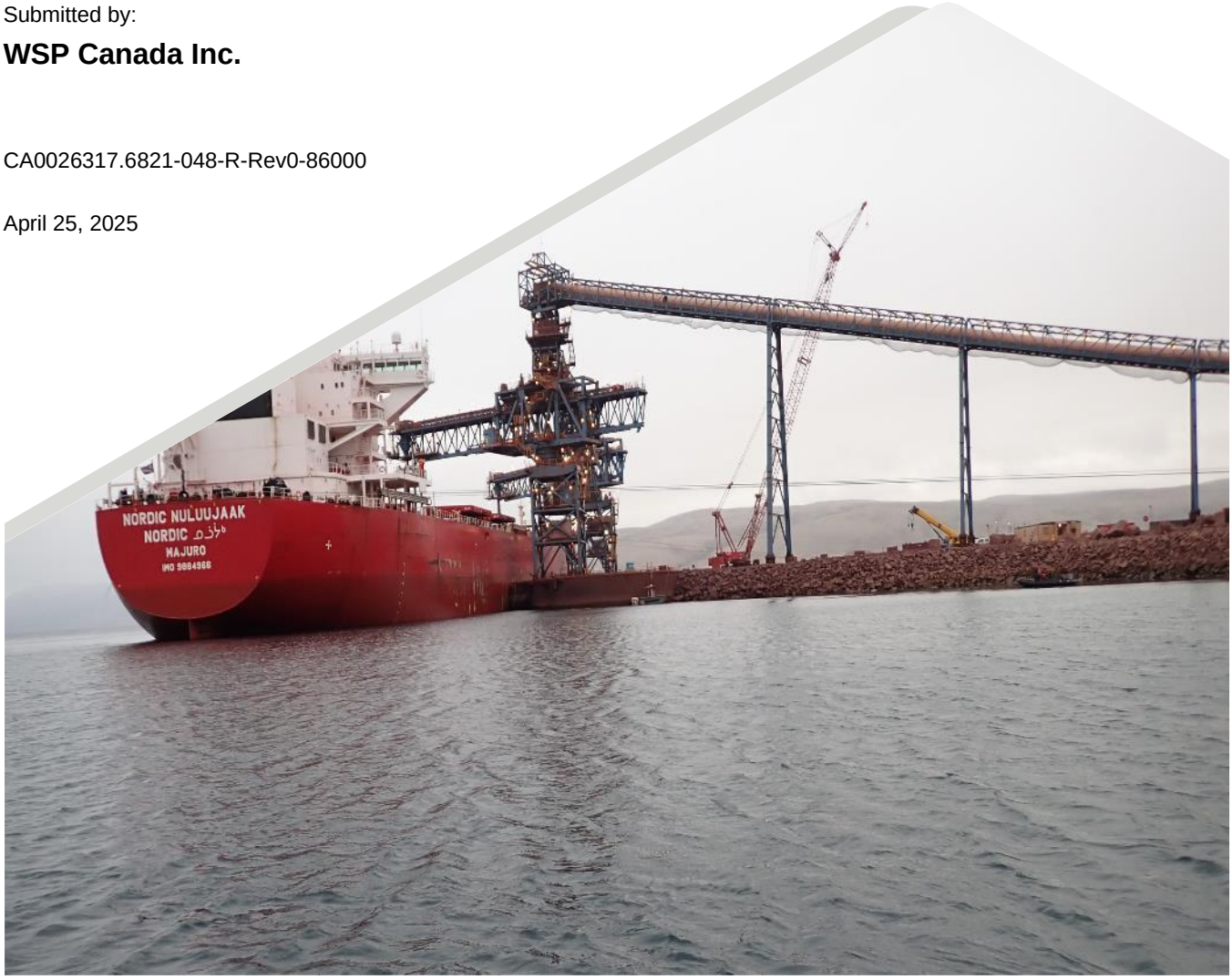


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ACRONYMS AND ABBREVIATIONS

Acronym or Abbreviation	Definitions
AET	Apparent Effects Threshold
ALS	ALS Canada Ltd.
BC	British Columbia
BC MOE	BC Ministry of Environment and Climate Change Strategy
BTEX	Benzene, toluene, ethylbenzene, and xylenes
CCME	Canadian Council of Ministers of the Environment
CD	Chart datum
COA	Certificate of Analysis
COPCs	Contaminants of potential concern
DL	Detection limit
DLQ	Detection Limit Qualifier
DQO	Data Quality Objective
e.g.	Exempli gratia
=	Equal
FCSAP	Federal Contaminated Sites Action Plan
FEIS	Final Environmental Impact Statement
>	Greater than
ISQG	Interim Sediment Quality Guideline
i.e.	In other words
<	Less than
m	Metre
mm	millimetre
m^2	Square metre
MDL	Method Detection Limit
MEEMP	Marine Environmental Effects Monitoring Program
mg/kg	Milligram per kilogram
MMP	Marine Monitoring Plan
Mtpa	Million tons per annum
NIRB	Nunavut Impact Review Board
NIS/AIS	Non-Indigenous Species and Aquatic Invasive Species

Acronym or Abbreviation	Definitions
No.	Number
NOAA	National Oceanic and Atmospheric Administration
PAH	Polycyclic aromatic hydrocarbon
PC	Project Certificate
PEL	Probable Effect Level
PHC	Petroleum Hydrocarbon
%	Percent
PSDL	Particle Size Detection Limit
QA/QC	Quality Assurance / Quality Control
QC	Quality Control
RPD	Relative Percent Difference
SEM	Sikumiut Environmental Management Ltd.
SNW	Northwest Transect
SOP	Sustainable Operations Proposal
SW	West Transect
TARP	Trigger Action Response Plan
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound
WSP	WSP Canada Inc.
WSQG	Working Sediment Quality Guidelines

3.0 SEDIMENT QUALITY

3.1 Introduction

This chapter presents the results of the marine sediment quality monitoring program, a component of the larger Marine Environmental Effects Monitoring Program (MEEMP) conducted within the vicinity of Milne Port in Milne Inlet, during the 2024 open-water season. The 2024 MEEMP sediment sampling program was focused on the eight Capesize sampling stations established during the 2023 MEEMP to assess potential changes in marine sediment quality and benthic infaunal community indices associated with potential impacts of Baby Cape and Capesize ore carriers utilizing the Ore Dock. The 60-station joint radial transect benthic and sediment sampling program, with a monitoring frequency of every three years, was last conducted in 2023 and is scheduled for monitoring in 2026.

The Capesize sampling program was developed in consideration of the additional commitment for monitoring for potential effects of the increased use of larger ore carriers (i.e., Capesize and Baby Cape) in 2023 under Amendment 5 of Nunavut Impact Review Board (NIRB) Project Certificate (PC) 005. Conditions are described in Chapter 1.0, Table 1-2, and marine sediment monitoring is intended to address PC Conditions No. 76, 83(a), 84, 85, 87, and 99(a).

3.1.1 Objectives

The MEEMP objectives are outlined in Section 1.3 of Chapter 1.0 (Program Overview). The objectives specific to the 2024 sediment quality program are:

- Characterize and interpret marine sediment quality at eight stations established in Milne Port for the purpose of identifying Project-related effects due to the use of larger ore vessels (Baby Cape and Capesize) at Milne Port.
- Verify predictions made in the Final Environmental Impact Statement (FEIS; Baffinland 2012, 2013) and other submissions to NIRB regarding effects on sediment quality, as applicable.
- Recommend any necessary and appropriate changes to the sediment quality component of the MEEMP for future years.
- Involve Inuit in the marine sediment quality monitoring program and include protocols that are responsive to Inuit concerns.

3.2 Study Design

3.2.1 Background

In 2023, NIRB accepted the Sustaining Operations Proposal and issued Amendment 5 of Project Certificate 005. Under Amendment 5, Term and Condition 83(a) required Baffinland to update the marine sediment quality program to reflect the increased use of larger ore vessels at Milne Port. Baffinland committed that stations SW-1 through SW-4, SE18-1, SNW-1, and two new stations added in 2023 (SCV-1 and SCV-2) would be monitored for scouring effects on sediment and benthic infauna for three years after the initial use of large (Baby Cape and Capesize) ore carriers in fall 2023 (Commitment 10, SOP Technical Comment QIA ME-7(3); NIRB, 2023). Following this three-year period, Baffinland will consider a reduced frequency in sampling at these locations (once

every three years) if sediment and benthic conditions at these sites are shown to be stable and within the limits of impact predictions. As the initial Capesize ore carrier use in Milne Port was planned to take place in the late ice-free period of 2023, sampling for Capesize vessel effects monitoring commenced in August 2023 (4-19 August, 2023) with the intention of documenting existing conditions for sediment quality prior to the use of the larger ore carriers. The first Capesize vessel arrived at Milne Port on 29 August, 2023. In total, there were five Capesize (3 Newcastlemax and 2 Baby Cape) ore carrier arrivals to Milne Port during the 2023 shipping season. The MEEMP 2023 sediment samples taken to document existing conditions at the Capesize sampling stations were collected just prior to the arrival of the first Capesize vessel.

In 2024, sediment quality sampling was conducted at the eight Capesize sampling stations established in 2023 for the Capesize Vessel Existing Conditions Sampling Program (SW-1 through SW-4, SE18-1, SNW-1, SCV-1 and SCV-2). The MEEMP 2024 sediment samples were taken approximately one year after the arrival of the first Capesize vessel at Milne Port) and so the 2024 MEEMP represents Year 1 of the Capesize Vessel monitoring program.

The full radial transect joint sediment and benthic infauna sampling program was not conducted in 2024 based on the adjusted monitoring frequency of every three years, 2023 being the last year the full joint sediment and benthic program was implemented.

3.2.2 Sampling Parameters and Indicators

For marine sediment quality, parameters measured were pH, particle size, organic carbon, metals, polycyclic aromatic hydrocarbons (PAHs), benzene, toluene, ethylbenzene, and xylene (BTEX), volatile organic compounds (VOCs), and petroleum hydrocarbons (PHCs). A subset of these parameters (i.e., percent fines, metals, and hydrocarbons) were identified as sediment quality indicators to assess the potential for environmental effects from the Project in the assessment and Baffinland's Trigger Action Response Plan (TARP; described below in Section 3.3.4). To provide early warning of environmental effects from the Project, applicable sediment quality guidelines were used as thresholds, where they exist (i.e., CCME sediment quality guidelines for the protection of aquatic life in marine environments [CCME 1999]). For indicators of particular concern for the Project, with no applicable sediment quality guideline (i.e., percent fines and iron), data were analyzed statistically to evaluate Project-related effects within the Milne Inlet study area. Overall patterns and trends in percent fines and iron are evaluated both spatially and temporally in the sediment assessment.

Along with several other components of the MEEMP, the marine sediment quality monitoring program has indicators, thresholds and risk categories that are part of the TARP, an adaptive management process. The TARP uses effect indicators that are measured against a series of tiered thresholds (i.e., low, moderate and high-risk thresholds) that are designed to guide short-term and long-term adaptive management strategies as outlined in Baffinland (2023). Baffinland has updated the TARP as part of the revised draft Marine Monitoring Plan (MMP) (Baffinland 2023). The pre-defined actions identified in the TARP describe the responses that Baffinland would implement should the corresponding threshold levels be exceeded and assuming there is some degree of certainty that the measured change is Project-related. As adaptive management is beyond the scope of the present report, only the indicators, risk categories and thresholds are presented here (Section 3.3.4).

3.3 Materials and Methods

3.3.1 Field Methodology

Sediments were sampled from eight stations in the “Capesize sampling” area along with co-located benthic infaunal samples (Section 4.0). The 8 sediment samples and one duplicate sample were collected from the stations listed in Table 3-1 (and shown on Figure 3-1) and submitted for analysis of the sediment quality parameter groups listed in Section 3.2.2.

Table 3-1: MEEMP Sediment Quality and Benthic Infauna Capesize Vessel Stations at Milne Port (2024)

Station Name	UTM Coordinates (Zone 17W)		Approximate Lateral Distance from Centre of Ore Dock (m)	Water Depth (-m below Chart Datum (m)[1]
	Easting	Northing		
Capesize Vessel Stations				
SCV-1	503120	7976660	148.1	34.2
SCV-2	503087	7976586	181.7	26.0
SE18-1	503433	7976699	183.8	15.7
SW-1	503162	7976554	125.2	9.6
SW-2	503052	7976533	231.8	16.9
SW-3	502970	7976468	334.1	14.5
SW-4	502867	7976434	441.3	15.6
SNW-1	503301	7976745	124.2	32.6

Notes:

m = metres; UTM = Universal Transverse Mercator.

[1]Sample depth was converted to meters chart datum (CD), estimated using tide table for Milne Inlet, Nunavut (https://tides.gc.ca/en/stations/05791 [accessed March 2025]). The negative (-) numbers indicate ‘below’ CD.



LEGEND

BATHYMETRIC CONTOUR (5 m INTERVAL)

BATHYMETRIC CONTOUR (25 m INTERVAL)

SEDIMENT AND BENTHIC INFAUNA STATIONS

CAPESIZE STATION

0 250 500

1:12,500 METRES

REFERENCE(S)

BATHYMETRY CREATED BY GOLDER FROM MULTIPLE DATA SOURCES. HYDROGRAPHY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. MILNE PORT IMAGERY CAPTURED AUGUST 2020 © 2020 DIGITAL GLOBE, INC. ADDITIONAL IMAGERY COPYRIGHT © 20240718 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTION: UTM ZONE 17 DATUM: NAD 83

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

TITLE
CAPESIZE VESSEL SEDIMENT QUALITY AND BENTHIC INFAUNA SAMPLING STATIONS 2024

CONSULTANT
wsp

YYYY-MM-DD	2025-04-23
DESIGNED	TT
PREPARED	AA
REVIEWED	TT
APPROVED	TT

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Sediment samples were collected using a standard Van Veen grab sampler (area of 0.1 m^2). Each grab sample was examined for acceptability based on the following criteria:

- The sampler was fully closed.
- There was adequate penetration depth (i.e., sediment volume greater than 25% full).
- The sample did not appear overfilled or disturbed, and the sample did not appear to have been collected at an angle.
- The sampler did not appear to be leaking sediment at a substantial rate (i.e., the top of the sediment profile did not appear to be sloping inwards).

Upon acceptance, the overlying water in the grab was removed using a siphon tube or turkey baster, taking care to minimize the loss of sediment from the surface of the grab contents. After decanting, the sample consisted of sediment with minimal overlying water visible. For each sample collected, two terra core samples were taken from the undisturbed sediments and placed into pre-labeled methanol preserved vials for VOCs and/or BTEX. A description of the sediment with respect to colour, particle size, depth of sediment horizon sampled, grab penetration depth and presence of non-sediment materials (e.g., shells, debris, biota) was recorded on the sediment collection log. Prior to the sample collection, a stainless-steel spoon and bowl were cleaned with laboratory-grade detergent and rinsed with de-ionized (analyte-free) water. The remaining top 5 centimetres (cm) of sediment from the grab sample was removed from the center of the grab using a stainless-steel spoon and transferred to a stainless-steel bowl. The sediment was then homogenized, and aliquots transferred to clean, laboratory supplied sampling containers.

Physical and chemical parameters were analyzed in sediment samples collected from a total of eight Capesize sampling stations near the Ore Dock in Milne Inlet, and one field duplicate quality control (QC) sample collected from one randomly selected station (approximately 12% of the total number of stations). Photographs were taken of each grab sample and each homogenized composite sample (Appendix 3A).

Sediment samples were sent to ALS Canada Ltd. (ALS) for analysis of the following parameters:

- Particle size distribution (Wentworth scale [Wentworth 1922]), moisture, and pH
- Organic and inorganic carbon
- VOCs and/or BTEX
- PHCs F1-F4 and PAHs
- Metals (including mercury)

3.3.2 Data Analysis

The physical composition of sediments from Capesize sampling stations was characterized and sediment quality parameters were screened against applicable sediment quality guidelines. Iron is of primary importance because of the potential for increased deposition of iron ore in the form of dust or in runoff from storage stockpiles generated from the Project. Given that the iron ore consists primarily of iron (>65%; FEIS; Baffinland 2012, 2013), monitoring for changes in the concentration of this element in marine sediments is an important indicator for the MEEMP sediment quality component. However, there is no iron marine sediment quality guideline in Canada.

To address the objectives outlined in Section 3.1.1 and according to the rationale below, further statistical evaluation of marine sediment quality focused on the spatial and temporal patterns in the distribution of fine sediments and iron concentrations at the eight Capesize sampling stations.

- The proportion of fine sediments was evaluated statistically because metals tend to accumulate to a greater degree in finer sediments as a result of both physical and chemical factors (e.g., increased surface area to volume ratio).
- Sediment iron concentrations were evaluated statistically because iron has been raised as a concern of local Inuit due to the potential for increased disposition of iron ore in the form of dust or in runoff from storage stockpiles because of the Project.

3.3.2.1 Comparison to Sediment Quality Guidelines

Analytical results were compiled, and concentrations of metals and hydrocarbons were compared to CCME ISQGs and Probable Effect Level (PELs) for the protection of aquatic life in the marine environment (CCME 1999), applicable within the Project jurisdiction. The CCME ISQGs are intended to represent concentrations below which adverse biological effects are rarely expected to occur. By comparison, the CCME PELs are intended to represent concentrations above which adverse effects are predicted to occur frequently, based on a concurrence data set with sediment chemical concentration and benthic invertebrate effects data from other sites. Notably, the Federal Contaminated Sites Action Plan (FCSAP) guidance for working harbours (FCSAP 2021) recommends use of PELs over ISQGs for screening primary contaminants of potential concern (COPCs), as screening with ISQGs is considered overly conservative and does not always correlate well with observed effects under field conditions (FCSAP 2021).

To provide a screening value to inform the sediment evaluation, in the absence of a CCME guideline, metals and hydrocarbons were compared to British Columbia (BC) Working Sediment Quality Guidelines (WSQG) (British Columbia Ministry of the Environment and Climate Change Strategy [BC MOE] 2021), and the National Oceanic and Atmospheric Administration (NOAA) sediment benchmarks (Buchman 2008).

3.3.2.2 Statistical Models of Fines and Iron Content at Capesize Sampling Stations

The change in percent fines between 2023 and 2024 was assessed using a mixed beta regression, accounting for the sampling station. The fixed variable was the categorical effect of year, and station was the random intercept. The change in iron content was assessed using a mixed-effects model, where the fixed variables were the effects of year (categorical) and effect of fines. Station was the random intercept. That is, the analysis accounted for the percent fines values at each station, as well as for the different processes between fines and iron observed at stations with and without Capesize Vessel scour. Statistical analyses were performed in the statistical environment R v.4.4.2 (R 2024).

3.3.3 Quality Management

Of primary importance to the sediment sampling program was the collection of reliable data, which was achieved through the consistent application of Quality Assurance / Quality Control (QA/QC) measures. These quality management procedures were applied to the field collection, data analysis, and reporting tasks for the sampling in 2024 to verify that the data presented are valid and of acceptable quality to meet the objectives outlined in Section 3.1.1.

3.3.3.1 Field QA/QC

Field staff were trained to be proficient in standardized sampling procedures, data recording using standard forms, and equipment operations applicable to the monitoring program. Field work was completed according to specified instructions and established technical procedures for standard sample collection, preservation, handling, storage, and shipping procedures.

General QA/QC tasks applicable to the sediment quality program included, but were not limited to, the following:

- Preparing geo-referenced field maps for use during the surveys to accurately document sampling locations and project-specific data collection forms to standardize the field data collection process.
- Maintaining regular communications between the Project Manager and field staff.
- Collecting and processing samples by qualified experienced personnel.
- Placing samples in appropriate clean containers in such a way that no foreign material was introduced to the sample and handled carefully so there would be no loss of material.
- Collecting QC (duplicate) samples in the field. Specifically, one field duplicate was collected to represent at least 10% of the total number of collected samples.
- Rinsing and filtering equipment including the Van Veen grab sampler, stainless steel bowls and spoons with seawater between stations. Visual inspection confirmed that materials were not retained on equipment before use on the next station.
- Checking and validating field survey data sheets before leaving the station.
- Selecting accredited laboratories for sample analysis. Performance quality of selected laboratories was verified through WSP's internal vendor approval and assessment procedures.
- Using chain-of-custody documentation to track sample shipments to the individual subcontractor laboratories.
- Packaging and shipping samples to the laboratory in accordance with required holding times and storage conditions.

3.3.3.2 Laboratory and Data Analysis QA/QC

Laboratory QA/QC reports were reviewed upon receipt to confirm adherence to sample hold times and laboratory data quality objectives (DQOs), and that the appropriate QA/QC information had been reported. Laboratory QA/QC included verification of recommended sample holding times and the analysis of laboratory control samples, laboratory duplicates, and spiked samples to assess precision and accuracy of analytical methods.

Field duplicates were sampled from one randomly selected sample (approximately 12% of total number of samples collected). The field duplicate was sampled as a 'split sample' from the same discrete homogenized grab sample as the 'original' sample and identified as Duplicate A (blind sample). To assess variability between field duplicates, the Relative Percent Difference (RPD) was calculated as follows:

$$RPD = \left(\frac{sample - duplicate}{(sample + duplicate)/2}\right) \times 100$$

In accordance with the BC Field Sampling Manual (BC ENV 2023) and CCME (2016), an RPD value of >50% was used to identify notable differences between original and duplicate samples. Values less than five times the Method Detection Limit (MDL) were not included in the RPD calculations because analytical variability near the MDL is higher and does not provide a reliable measure of variability associated with the collection of field samples.

3.3.4 TARP Assessment

As part of applying the Trigger Action Response Plan (TARP) sediment quality performance indicators were screened against condition status/thresholds in 2024, in order to assess risk levels for each performance indicator (Table 3-2).

Table 3-2: Marine Environment TARP Framework for Sediment Quality[1]

Component	Performance Indicators	Condition Status/Threshold		
		Low Risk	Moderate Risk	High Risk
Sediment Quality	• Particle Size • Nutrients • Metals • Hydrocarbons	Measured concentrations of a parameter at one or more stations are > the CCME[2] ISQG or another relevant lower bound guideline, and are higher than background concentrations. AND Spatial and temporal sediment trend analysis suggest a pattern indicative of Port-related effects beyond FEIS[3] predictions.	Measured concentrations of a parameter at one or more stations are > the CCME PEL or another relevant upper bound guideline[1]. AND Spatial and temporal sediment trend analysis suggest a pattern indicative of Port-related effects beyond FEIS[3] predictions. AND Sediment toxicity testing as a special study indicates a Port-related effect.	To be determined based on outcome of moderate response investigations.

[1] TARP criteria were applied for the Capesize Vessel Sampling Program however there is a 2-year limitation in the data available for analysis (2023 [existing conditions] vs 2024 [Year 1]).
[2] Canadian Council of Minsters of the Environment (CCME 1999) sediment quality guidelines for the protection of marine aquatic life. ISQG = Interim Sediment Quality Guideline; PEL = Probable Effect Level.
[3] Predictions made in the Final Environmental Impact Statement (FEIS; Baffinland 2012, 2013) and other submissions to the Nunavut Impact Review Board (NIRB) regarding effects on sediment quality, as applicable.

3.4 Results

Sediment quality samples were collected from eight stations located in close proximity to the Ore Dock at Milne Port to monitor potential impacts from the use of the larger Capesize vessels within the study area (Figure 3-1). Sampling of Capesize vessel stations occurred between 10 and 18 August 2024. Nine Capesize vessels (including Baby Cape) utilized the Ore Dock during the 2024 open water shipping season, with the first vessel arriving in the area on 01 August 2024 and the last vessel arriving on 24 September 2024. Three of the nine Capesize carriers arrived in Milne Port during the 2024 sediment sampling program and the remaining 5 vessels arrived once the program had been completed. Five Capesize vessels (including Baby Cape) had arrived in Milne Port during 2023 after completion of the 2023 baseline sampling.

Representative photographs and field data sheets from the field program are provided in Appendix 3A and Appendix 3B, respectively. Analytical laboratory reports are provided in Appendix 3C, and the compiled dataset for Capesize sampling stations screened to applicable sediment quality guidelines are provided in Appendix 3D, and the QA/QC results are provided in Appendix 3E.

3.4.1 Sediment Particle Size Composition

3.4.1.1 Capesize Sampling Stations (2023, 2024)

The physical composition of sediments differed among stations in 2024. Sediments from the Capesize sampling stations were comprised primarily of sand (86% to 94%) at stations SE18-1, SCV-2, SW-1, SW-2, and SW-3 (Figure 3-2) while stations SCV-1, SNW-1, and SW-4 were dominated by a mixture of sand and silt (i.e., silt fractions range from 27% at SW-4 to 38% at SCV-1).

Comparing the results of Capesize vessel sampling programs conducted in 2023 and 2024 (Figure 3-2), sediment substrate composition showed a noticeable difference between years from 2023 to 2024 at five of the eight stations.

- SE18-1: increase in sand (86% to 92%) combined with a decrease in the proportion of gravel (8% to 1.5%).
- SNW-1: increase in sand (46% to 65%) combined with a decrease in fines (47% to 27%).
- SW-1: decrease in sand (94% to 79%) and a smaller decrease in fines (3.7% to 2.2%) and an increase in gravel (from 3% to 20%).
- SW-2: increase in sand (86% to 96%) combined with smaller decreases in fines (5.8% to 3.5%) and gravel (7% to 1%).
- SW-4: decreases in fines (32% to 15%) and sand (66% to 55%) combined with an increase in gravel (2% to 30%).

The two new stations established in 2023 specifically for Capesize vessel impact monitoring (SCV-1 and SCV-2) appeared to be stable between the two years of monitoring in terms of substrate composition.

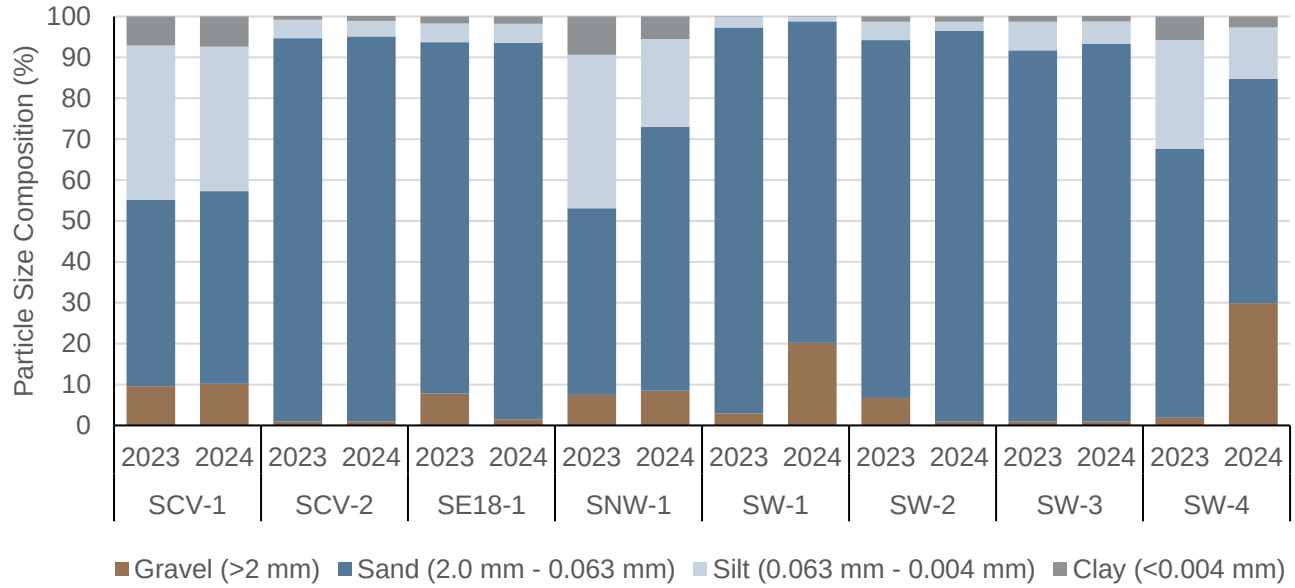


Figure 3-2: Sediment Particle Size Distribution for Capesize Vessel Stations, 2024.

3.4.1.2 Capesize Sampling Stations on the West Transect (2019 to 2024)

In 2022, the joint sediment and benthic program focused on targeted sampling at four stations along the West Transect (SW-1 to SW-4) due to the apparent anomalous results for sediment substrate and benthic infaunal indicators documented in 2020 at SW-2, relative to other stations along the West Transect. Results from the targeted sampling programs, at the time, indicated that the proportion of fines at SW-2 and other West Transect stations was varying, with a low proportion of fines over time and was expected to remain variable due to influence from propeller wash in combination with natural coastal processes. In 2023 and 2024, stations SW-1 (closest to the Ore Dock) to SW-4 (furthest from the Ore Dock) were sampled as part of the Capesize benthic and sediment monitoring program.

Particle size results for these four stations from 2019 to 2024 are presented in Figure 3-3 showing that while the sediments of stations along this transect are mostly comprised of sand to various extents since the data series commenced in 2019, percent fines have generally decreased over time at Stations SW-1, SW-2, and SW-3. Fines composition has been more stable annually at Station SW-4 except in 2024 when a decrease in fines was also observed at this station. The proportions of both sand and gravel have been variable over time but a general increase in these coarser sediments has been evident over time at these stations.

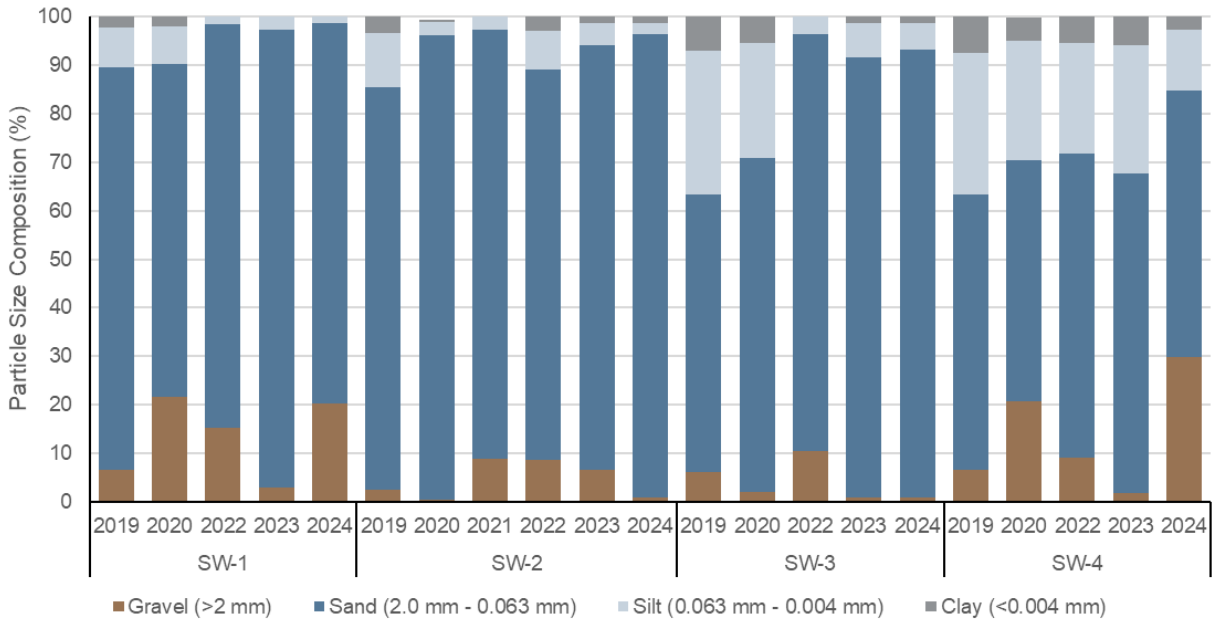


Figure 3-3: Sediment Particle Size Distribution for Stations SW-1 (closest to the Ore Dock) through SW-4 (furthest from the Ore Dock) Located along the West Transect, Milne Port 2019-2024.

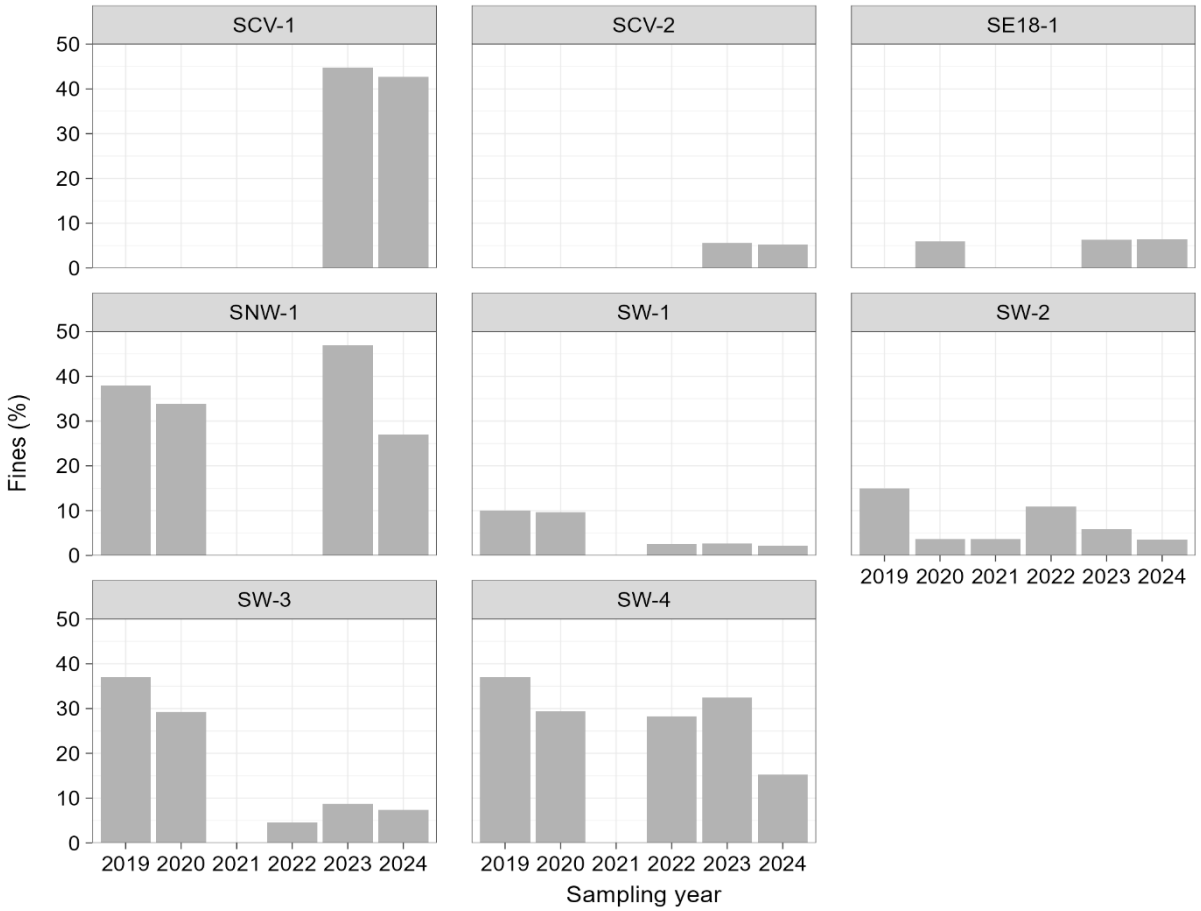
3.4.2 Comparison to Sediment Quality Guidelines

3.4.2.1 Sediment Metals and Organic Parameters

Sediment metal concentrations at the Capesize stations sampled in 2024 were lower than applicable sediment quality guidelines. Detection limits for the metal, tin were above the TEL NOAA sediment benchmark but below the AET sediment benchmark. Similar to the Capesize station sampling program included in the 2023 MEEMP, organic parameters (sediment BTEX, petroleum hydrocarbons, PAHs) were below applicable sediment quality guidelines, however, detection limits were above NOAA AET benchmarks (Appendix 3D).

3.4.3 Spatio-temporal Distribution of Fines at Capesize Sampling Stations

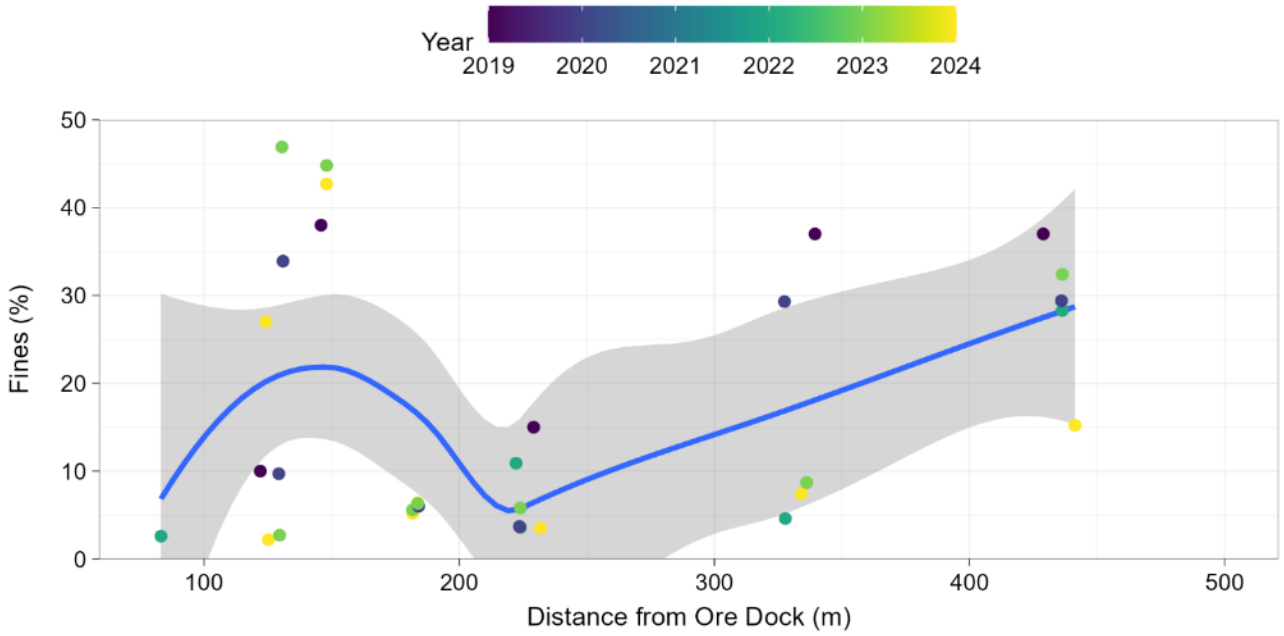
The temporal distribution of percent fines differed between stations (Figure 3-4). For some stations, percent fines had already decreased to <10% by 2023, before exposure to Capesize vessels in 2024 (Year 1). For others there appeared to be a reduction in percent fines between 2023 and 2024. At the three stations where there was a more limited time series (from 2020 or 2023 onwards instead of 2019), percent fines remained stable throughout the available time series, but for two of these stations percent fines was <10% throughout. Of the eight stations, SNW-1 and SW-4 showed the largest declines in percent fines between 2023 and 2024.



Note: Where there is no bar showing for a particular year, there was no sediment sample taken at that station during that MEEMP sampling year or the station had not been established in the monitoring program yet.

Figure 3-4: Observed Values of Percent Fines in Sediment at Capesize Sampling Stations, 2019–2024.

The spatial distribution of percent fines among the Capesize stations had large variation in percent fines at proximity to the Ore Dock (120–150 m from the Ore Dock), followed by a strong reduction in values at 175–225 m, and a gradual increase in fines with increasing distance (Figure 3-5). The high variability in fines in close proximity to the Ore Dock is the result of the observed lower fines at SCV-2, SE18-1, and SW-1, and higher fines observed at SCV-1 and SNW-1 (Figure 3-4). The gradual increase in fines away from the Ore Dock along the West transect was shallower in 2024 compared to 2023 due to the observed decrease in fines at SW4 more than 400 m from the Ore Dock.



Note: Trend line was added for visualization purposes only and does not represent statistical findings. Grey ribbon is 95% confidence interval.

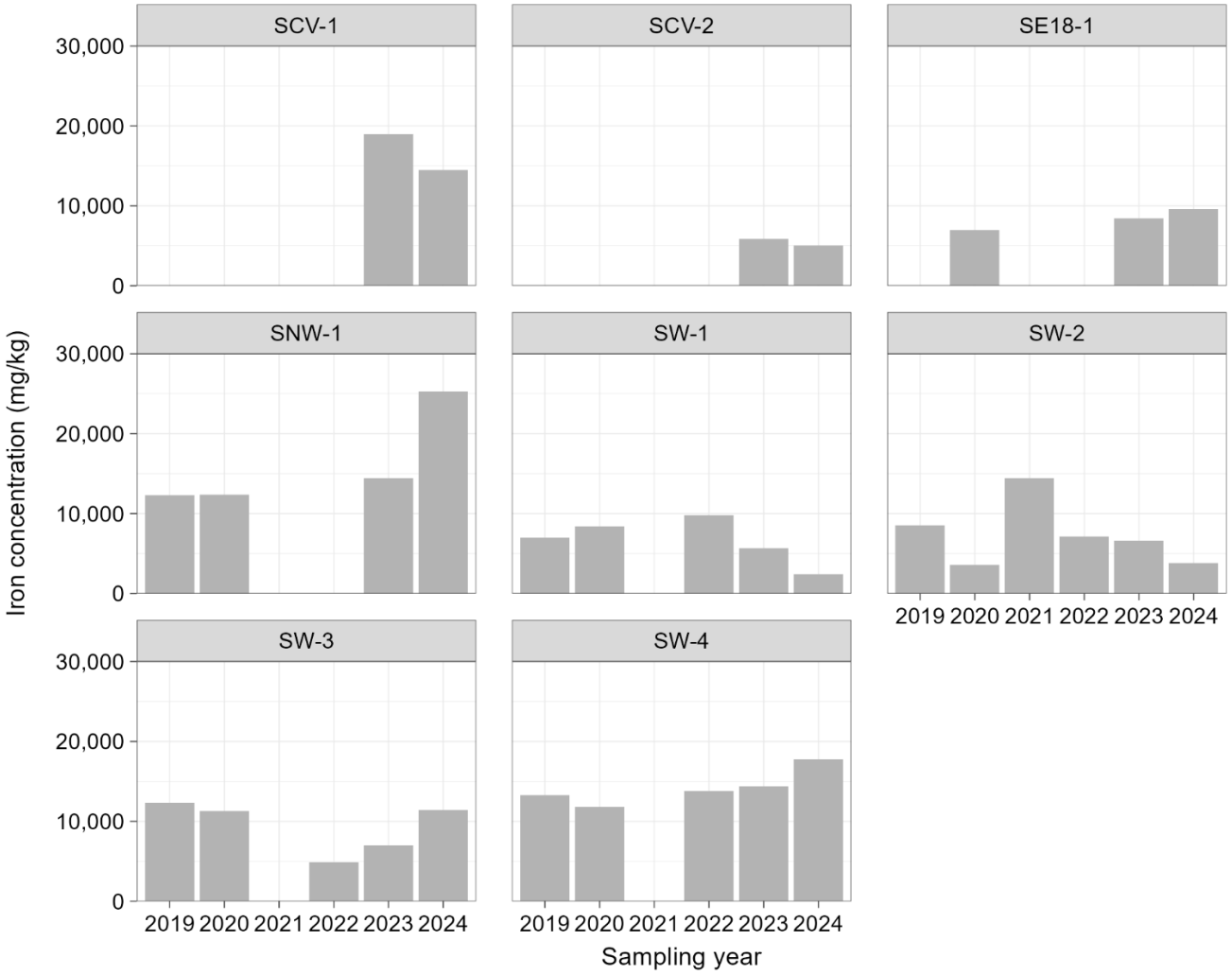
Figure 3-5: Observed Values of Percent Fines in Sediment in Capesize Sampling Stations, 2019–2024, Relative to Distance from Ore Dock and Sampling Year.

The change in percent fines between 2023 and 2024 was statistically significant (*P*=0.001), with an effect size of -37%; that is, overall for the Capesize stations fines were 37% lower in Year 1 (2024) when compared to existing conditions in 2023 prior to the use of Capesize vessels (on the odds scale as explained in Appendix 3F). The statistical power to detect the observed difference between 2023 and 2024 values was high (power = 0.93).

To assess the biological relevance of the overall significant decrease in fines between 2023 and 2024, this statistical result should be interpreted along with the percent fines time series data for the Capesize stations presented in Figure 3-4. Taken together, these results show that although most stations show some level of decrease in fines from 2023 to 2024 as reflected in the statistical result, for some stations the actual decrease is minimal and reflects a continuation of low fines content at that station since before 2024 (i.e., under existing conditions for this 2024 MEEMP assessment focussed on the introduction of the Capesize vessels). In contrast for Station SNW-1 (offshore from the ore dock at 33 m water depth) and Station SW-4 (furthest from the Ore Dock along the Western shoreline in 16 m depth and ~600 m east of Phillips Creek) the drop in fines was only evident in 2024 and was >10%, and so was more meaningful in terms of assessment of effects on sediment quality and the benthic infaunal community due to the use of the Capesize vessels in 2024.

3.4.4 Spatio-temporal Distribution of Iron Concentrations at Capesize Sampling Stations

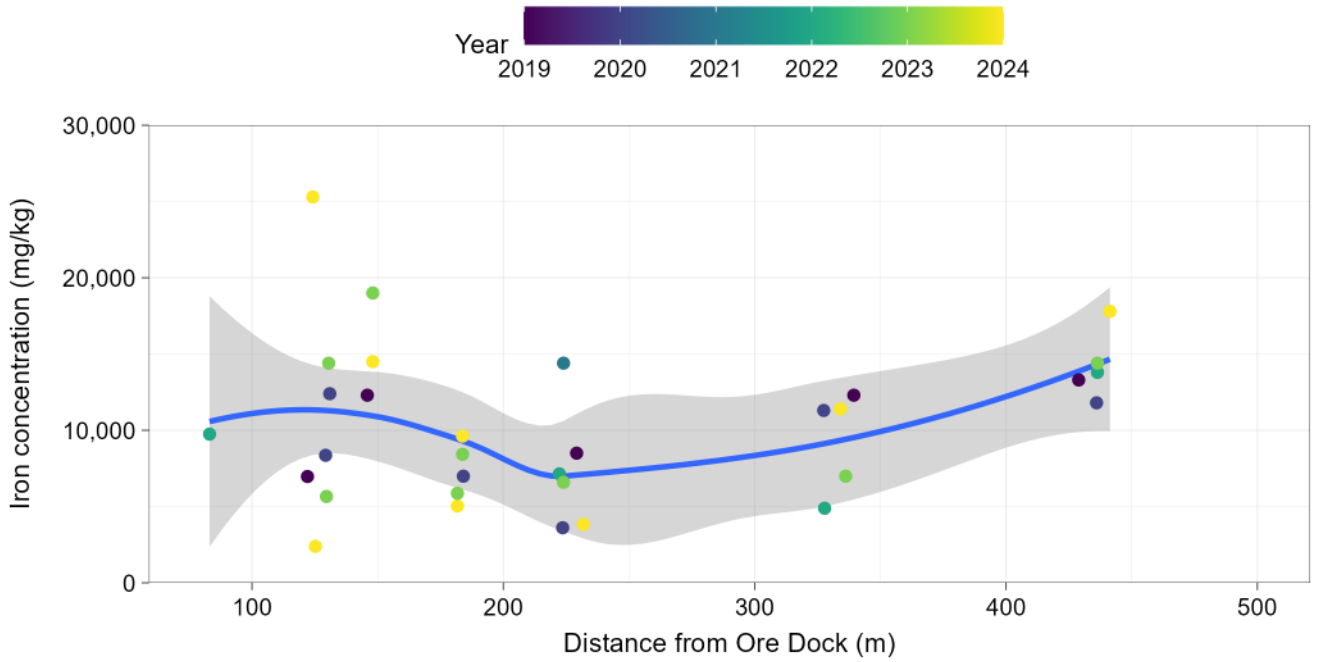
The temporal distribution of iron concentrations differed between stations (Figure 3-6). At most stations (SW-1, SW-2, SW-3), iron concentrations were variable, fluctuating to various extents between 2019 and 2024. At stations SNW-1, SW-4, and SE18-1 (to the north, west and east of the Ore Dock, respectively), iron concentrations generally increased between 2019 and 2024. At the remaining stations, iron concentrations decreased over time, likely following the recorded reduction in percent fines. Between 2023 and 2024, Figure 3-4 shows an increase in iron content to varying magnitudes at stations SNW-1, SE18-1, SW-3, and SW-4.



Note: Where there is no bar showing for a particular year, there was no sediment sample taken at that station during that MEEMP sampling year or the station had not been established in the monitoring program yet.

Figure 3-6: Observed Values of Iron Concentration in Sediment in Capesize Sampling Stations, 2019–2024.

Iron concentrations among the Capesize stations had higher variability at stations in close proximity to the Ore Dock (120–150 m from the Ore Dock), followed by a reduction in values at 175–225 m, and a gradual increase in iron with increasing distance from the Ore Dock (Figure 3-7). This trend generally reflects the spatial trend in percent fines (Figure 3-5), where high variability in fines was recorded in close proximity to the Ore Dock.

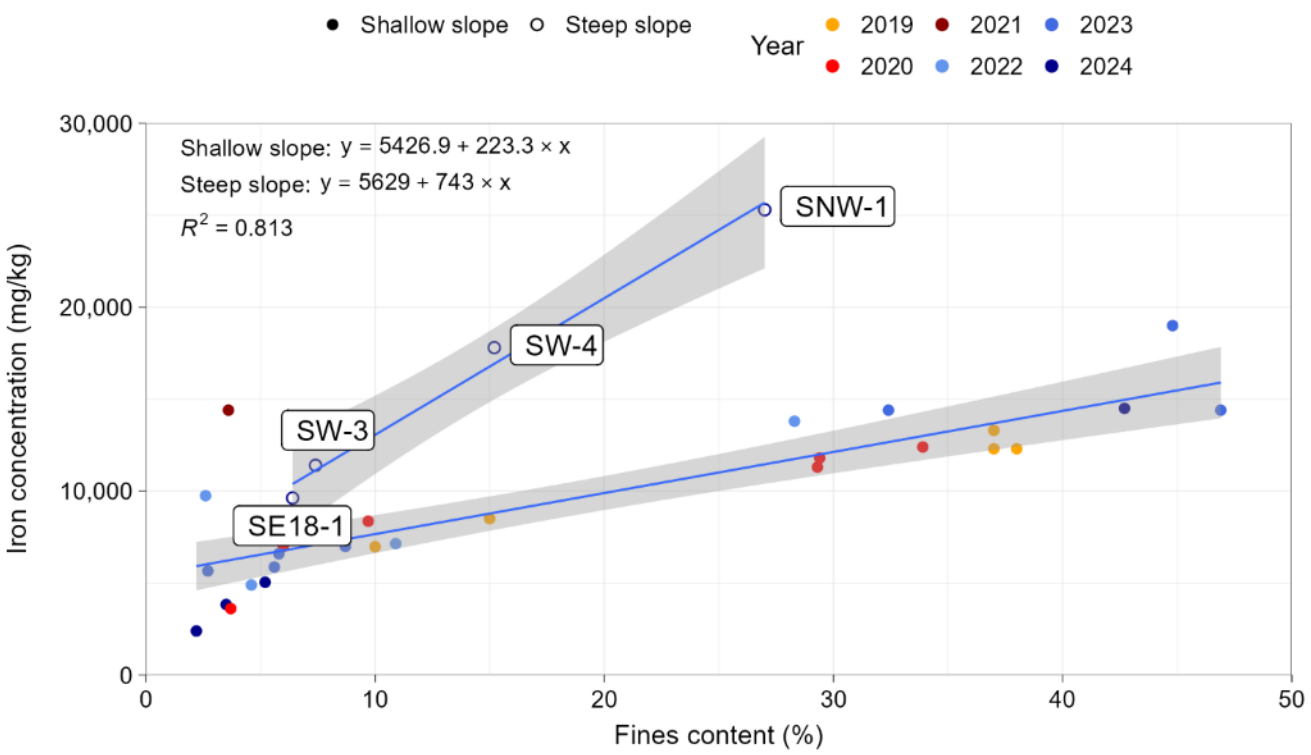


Note: Trend line was added for visualization purposes only and does not represent statistical findings. Grey ribbon is 95% confidence interval.

Figure 3-7: Observed Values of Iron Concentrations in Sediment in Capesize Sampling Stations, 2019–2024, Relative to Distance from Ore Dock and Sampling Year.

The relationship between iron concentration and fines content indicated two different processes (Figure 3-8) which were accounted for in the analysis of iron concentrations. For the majority of data (2019–2023 and some 2024 values), there was a linear relationship with a relatively shallow slope (value of 223.3 – i.e., an increase of 223.3 mg/kg in iron concentration per 1% increase in fines). However, four values sampled in 2024 in stations SNW-1, SW-3, SW-4, and SE18-1 fell along a much steeper line, with a slope of 743 (i.e., an increase of 743 mg/kg in iron concentration per 1% increase in fines). As shown in Figure 3-6, these were the four stations where a visual increase in iron was observed. At these and other stations, percent fines were either already low in 2023 or decreased in 2024 relative to 2023.

The change in iron concentration between 2023 and 2024 (accounting for percent fines) was statistically significant (P<0.001), with an effect size of -16%, which indicated there was an overall statistically significant decrease in iron concentration at the Capsize vessel stations between Year 1 (2024) and existing conditions in 2023 prior to the use of Capesize vessels. As also discussed in Section 3.4.3 for fines content, the visual change between 2023 and 2024 at individual stations for iron content varied, with some stations showing an increase, some stations staying approximately the same, and some showing a visual decrease (Figure 3-6).The statistical power to detect the observed difference between 2023 and 2024 values was close to sufficient (power = 0.76).



Note: Grey ribbon is 95% confidence interval.

Figure 3-8: Relationship Between Iron Concentration and Fines Content in Sediment, 2019–2024.

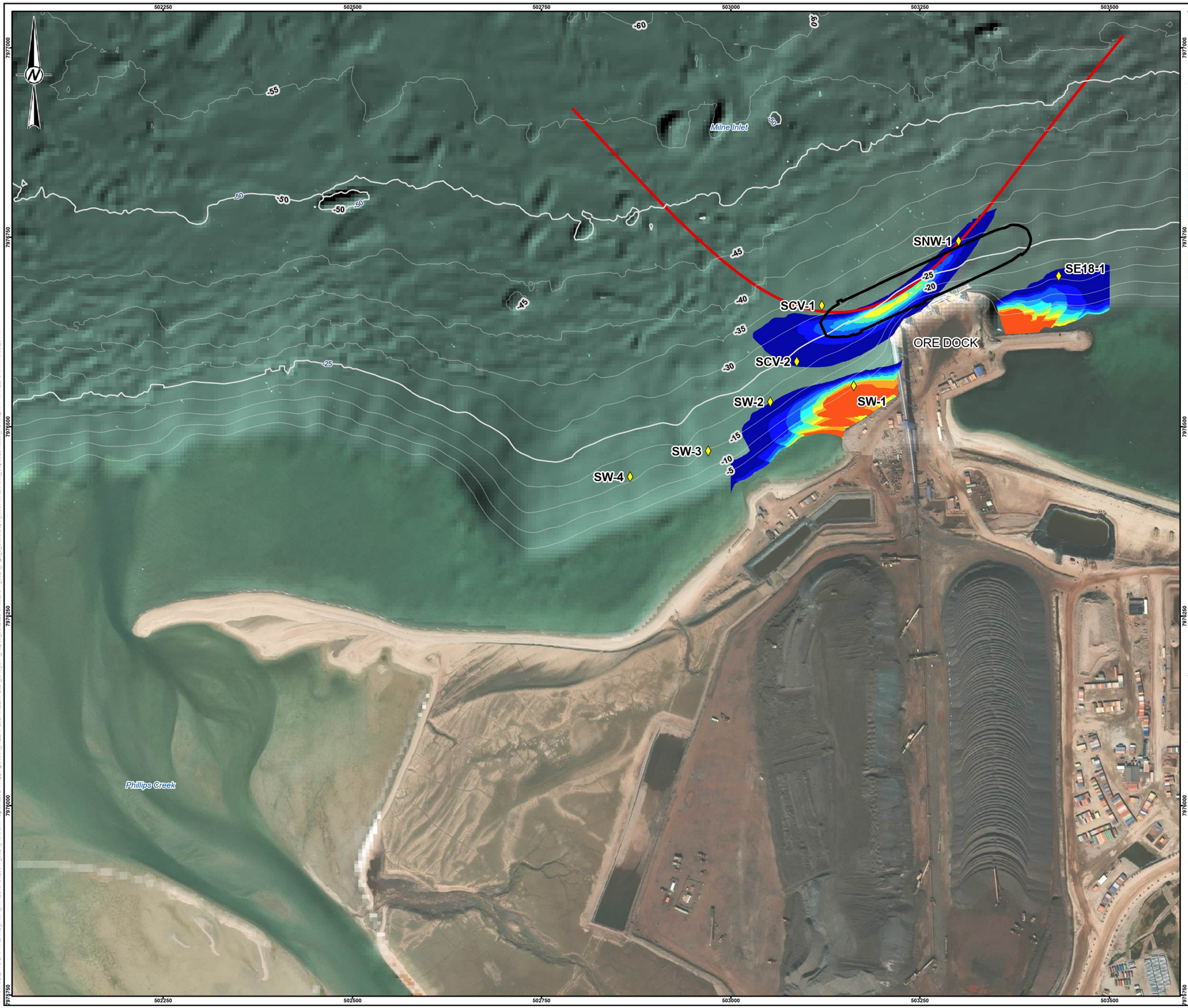
3.4.5 Comparison of the 2024 MEEMP Results to Capesize Vessel Scour Predictions

As outlined in Section 3.2.1, in 2023, the NIRB approved the continued transportation and shipping of 6 million tonnes per annum (Mtpa) of iron ore via the Tote Road and Northern Shipping Route from Milne Port during the ice-free period between 1 July and 31 October. As part of the approval, it was understood that vessel traffic would remain the same as that experienced since 2018 (maximum of 84 ore carriers), and that the introduction of larger vessels (Capesize) would further offset overall ship traffic requirements. To assess potential effects of the Sustaining Operations Proposal (SOP) on the marine environment, WSP conducted a Ship Wake and Propeller Wash Assessment to address possible project effects on the marine physical environment related to shipping activities associated with increased large vessel traffic (WSP 2023).

To develop a baseline condition for sediment quality within the vicinity of the Ore Dock area, eight sampling stations were established in 2023 to monitor Capesize vessel effects over time. Figure 3-9 shows the location of the eight Capesize vessel sediment sampling stations in relation to scour depths for Capesize vessel operations predicted by the Ship Wake and Propeller Wash Assessment for the Capesize vessels (WSP 2023) based on the assumed vessel track path. WSP (2023) estimated that propeller-generated wash velocities of all vessels, including the Supramax to Capesize, have the potential to cause scour and turbidity in the berthing area.

WSP (2023) predicted some scour to occur over most of the berthing area for Capesize vessels, with depth of scour ranging from 5 cm over the broader berthing area to 50 cm in a more localized area adjacent to the Ore dock. In 2023, Baffinland committed that stations SW-1 through SW-4, SE18-1, SNW-1, and two new sites (SCV-1 and SCV-2) would be monitored for scouring effects on sediment and benthic infauna for three years after the initial use of large (Baby Cape and Capesize) ore carriers in fall 2023. Following this three-year period, Baffinland would consider a reduced frequency in sampling at these locations (once every three years) if sediment and benthic conditions at these sites are shown to be stable and within the limits of impact predictions. Consistent with the MEEMP and 2023 sampling at Capesize stations, sediment substrates were sampled and characterized down to a depth of 5 cm in 2024.

By 2023 which represented existing conditions for this assessment, some of the stations had already experienced scouring prior to the introduction of the Capesize vessels either through a combination of the existing influence of scouring due to propeller wash from the smaller carriers, natural coastal processes and variations in morphology. Exceptions were SW4 which was the station furthest away from the Ore Dock (of the eight Capesize stations), and two stations (SCV-1 and SNW-1) offshore from the Ore Dock in deeper waters (30 to 35 m water depth). Based on the vessel track assumed for the modelling study, WSP (2023) predicted a scouring impact at five of the eight Capesize sampling stations and the 2024 assessment found that fines either continued to be low or were reduced in 2024 at all five stations. For the stations not predicted to be impacted by scouring by WSP (2023), SCV-1 offshore from the Ore Dock in deeper water did not appear to show signs of scouring in 2024; whereas, nearshore stations in shallower water out along the Western Transect towards Phillips Creek either remained low in fines (SW-3) or showed a decrease in fines in 2024 relative to 2023.



LEGEND

- CAPESIZE STATION
- BATHYMETRIC CONTOUR (5 m INTERVAL)
- BATHYMETRIC CONTOUR (25 m INTERVAL)
- VESSEL TRACK
- CAPESIZE VESSEL APPROXIMATE FOOTPRINT

SCOUR DEPTH (m)

- 0 - ≤0.05
- >0.05 - ≤0.10
- >0.10 - ≤0.15
- >0.15 - ≤0.20
- >0.20 - ≤0.25
- >0.25 - ≤0.30
- >0.30 - ≤0.35
- >0.035 - ≤0.40
- >0.40 - ≤0.45
- >0.045 - ≤0.50

0 100 200

1:5,000 METRES

REFERENCE(S)

BATHYMETRY CREATED BY GOLDER FROM MULTIPLE DATA SOURCES. HYDROGRAPHY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. MILNE PORT IMAGERY CAPTURED AUGUST 2020 © 2020 DIGITAL GLOBE, INC. ADDITIONAL IMAGERY COPYRIGHT © 20240718 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTION: UTM ZONE 17 DATUM: NAD 83

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

TITLE
SEDIMENT QUALITY SAMPLING STATIONS AND ESTIMATED SCOUR DEPTH FOR A CAPESIZE ORE CARRIER TRANSIT ON A REFERENCE SHIP TRACK IN THE BERTH AREA INCLUDING TUG EFFECTS

CONSULTANT

YYYY-MM-DD	2025-04-23
DESIGNED	TT
PREPARED	AA
REVIEWED	TT
APPROVED	TT

PROJECT NO.	CONTROL	REV.	FIGURE
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3.4.6 QA/QC Results

The 2024 sediment quality data were considered valid based on the results of the QA/QC assessment provided in Appendix 3E. Briefly,

- The Relative Percent Difference (RPD) was below the Data Quality Objective (DQO) of 50% in the parent/duplicate pair collected during the 2024 program. The QA/QC results suggest there was low variability and high precision between duplicates consistent with sediment quality (Table 1, Appendix 3E).
- Chemical analyses on all sediment samples were completed within the sample hold time requirements[1] (Table 2, Appendix 3E).
- Data reported by the laboratory were considered reliable according to the accredited laboratory QA/QC assessment. Two data qualifiers were noted on the Certificate of Analysis (COA):
  - Detection Limit Qualifier (DLQ) – Detection limit raised due to co-eluting interference. Mass Spectrometry qualifier ion ratio did not meet acceptable criteria for Dichloroethylene, 1,1; however, all results were below the detection limit.
  - Particle Size Duplicate Limit (PSDL) – Particle size duplicate results exceed ALS RPD DQO but are within 5% absolute difference and are considered reliable.

Overall, the QA/QC results indicate that the sediment quality data collected during the 2024 sampling program are of acceptable quality to address the objectives stated in Section 3.1.1.

3.4.7 TARP Assessment

Results of the sediment quality assessment above were screened against the TARP criteria (Table 3-2). The ‘Low Risk’ threshold was not triggered for sediment quality for the 2024 MEEMP focussed on comparing the Year 1 Capsize Sampling Station results with the existing 2023 results for these stations.

Sediment quality indicators were at concentrations lower than available CCME ISQGs for the protection of aquatic life. Although there were statistically significantly fewer fines in 2024 compared to 2023, at the stations where a reduction in the proportion of fines was observed between these years, scouring of sediments was predicted down to depths of 5 cm through to 50 cm by the Ship Wake and Propeller Wash Assessment for the Capesize vessels (WSP 2023) as shown in Figure 3-9.

By 2023 which represented existing conditions for this assessment, some of the stations had already experienced scouring prior to the introduction of the Capesize vessels either through a combination of the existing influence of scouring due to propeller wash from the smaller ore carriers, natural coastal processes and variations in morphology. Exceptions were SW-4 which was the station furthest away from the Ore Dock, and two stations (SCV-1 and SNW-1) offshore from the Ore Dock in deeper waters (30 to 35 m water depth). Based on the vessel track assumed for the modelling study, WSP (2023) predicted a scouring impact at five of the eight Capesize sampling stations and the 2024 assessment found that fines either continued to be low or were reduced in 2024 at

[1] Extraction hold times for PHC F2-F4 and PAHs on the SW-3 sample were exceeded by two days because the sample collected on 10 August 2024 was not received at the lab until 22 August 2024, with analyses proceeding on 26 August 2024 (after the weekend once the samples were logged into the system at ALS). Hold time exceedances are not expected to affect the integrity of the sediment quality results.

all five stations. For the stations not predicted to be impacted by scouring by WSP (2023), SCV-1 offshore from the Ore Dock in deeper water did not appear to show signs of scouring in 2024; whereas, nearshore stations in shallower water out along the Western Transect towards Phillips Creek either remained low in fines (SW-3) or showed a decrease in fines in 2024 relative to 2023 (SW-4).

With respect to sediment iron content, there was a statistically significant overall decrease in Year 1 (2024) compared to existing conditions in 2023. As found in previous MEEMP years, variability was observed for iron content among the Capesize sampling stations.

Given that sediment concentrations were below CCME guidelines for the protection of aquatic life and the 2024 results do not suggest a clear pattern indicative of Port-related effects beyond FEIS predictions and subsequent addenda, a ‘Low Risk’ threshold was not triggered in 2024 for the Capesize assessment.

3.5 Discussion

The 2024 MEEMP sediment sampling program was focused on eight Capesize stations sampled to assess potential changes in marine sediment and benthic infaunal community indices associated with potential impacts of Baby Cape and Capesize ore carriers utilizing the Ore Dock.

As discussed below, the 2024 program provided a characterization of sediment quality at the Capesize sampling stations located within the nearshore area (<30 m bathymetry line) and offshore from the Ore Dock (just beyond the 30 m bathymetry line. Nearshore stations closer to the Ore Dock in previous monitoring years up to and including 2023 have shown signs of localized disturbance that mobilized the fine sediment fraction or have been low in fines over the sampling record. These nearshore stations are more likely to be influenced by natural coastal processes and variations in morphology which can confound an assessment of Project-related scouring effects. In addition, Phillips Creek enters the inlet ~600 m west of SW-4, the station furthest from the Ore Dock.

WSP conducted a Ship Wake and Propeller Wash Assessment to address possible project effects on the marine physical environment related to shipping activities associated with increased large vessel traffic (WSP 2023). This assessment predicted some scour to occur over most of the berthing area for Capesize vessels with scouring depths ranging from 5 cm over the broader berthing area to 50 cm in a more localized area adjacent to the Ore dock. The 2024 sediment quality assessment evaluated sediment quality down to 5 cm sediment depth consistent with the MEEMP and sampling at the Capesize stations in 2023. This sediment depth is also the most relevant to the assessment of benthic infauna communities (Chapter 4.0).

3.5.1 Percent Fines and Substrate Composition

The physical composition of sediments differed among stations in 2024, with both sand and fines present in differing proportions depending on the station location. Nearshore stations SE18-1, SCV-2, SW-1, SW-2, and SW-3 were comprised primarily of sand while the two stations just offshore from the Ore Dock in 30 to 35 m of water (SCV-1 and SNW-1) were dominated by sand with silt, as was nearshore station SW-4 which was furthest from the Ore Dock. For some stations the percentage of sand increased between 2023 and 2024 (SE 18-1, SNW-1, SW-2) while at other stations the percentage of sand decreased (SW-1, SW-4). Both SW-1 and SW4, located west of the Ore Dock, had higher proportions of gravel in 2024 relative to 2023.

There was a statistically significant reduction in fine sediments at the Capesize stations between 2023 and 2024. To assess the biological relevance of the overall significant decrease in fines between 2023 and 2024, this statistical result should be interpreted along with the time series data for percent fines at the Capesize stations. Taken together, these results show that although most stations showed some level of decrease in fines between 2023 and 2024 (as reflected in the statistical result), for some stations the actual decrease in percent fines is minimal and reflects a continuing trend of low fines content evident since before 2024 which represent existing conditions for this 2024 assessment. In contrast, for Station SNW-1 (offshore from the ore dock at 33 m water depth) and Station SW-4 (furthest from the Ore Dock in 16 m water depth) the reduction in fines was only evident in 2024 and the difference in fines was >10%. These observed changes in fines at SNW-1 and SW-4 between 2023 and 2024 were most relevant to assessing effects of the use of the Capesize vessels in Year 1 (2024) on sediment quality relative to existing conditions in 2023, which is required to address the 2024 MEEMP study objectives.

Based on the Capesize vessel track assumed for the Ship Wake and Propeller Wash Assessment, this study predicted a scouring impact at five of the eight Capesize sampling stations. The 2024 MEEMP assessment found that fines either continued to be low or were reduced in 2024 at all five stations. For the stations not predicted to be impacted by scouring by the modelling study, a station offshore from the Ore Dock in deeper water (SCV-1) did not appear to show signs of scouring in 2024; whereas, nearshore stations in shallower water out along the Western Transect towards Phillips Creek either remained low in fines (SW-3) or showed a decrease in fines in 2024 relative to 2023 (SW-4).

Since 2019, the spatial distribution of percent fines among the Capesize stations had been more variable closer to the Ore Dock, followed by a strong reduction in values at 175–225 m, and a gradual increase in fines with increasing distance. The gradual increase in fines away from the Ore Dock along the West transect was shallower in 2024 compared to 2023 due to the observed decrease in fines at SW-4 located more than 400 m from the Ore Dock. Reduced percent fines at Station SW-4 (in 2024) and Station SW-3 (in 2023 and remained low in 2024) go beyond what was predicted in the Ship Wake and Propeller Wash Assessment (WSP 2023). It is however recognised that these nearshore stations could be subject to the ongoing influence of natural coastal processes and variations in morphology, and/or sediment transport to the inlet via Phillips Creek to some extent, as well as the potential influence of propeller wash from vessel traffic. Moreover, it is important to note, that regardless of potential propeller wash influence, benthic infauna densities at SW-3 and SW-4 were not significantly different in 2024 and 2023, and both stations continue to support diverse benthic invertebrate communities, as discussed in Chapter 4.0.

3.5.2 Sediment Quality and Iron

In 2024, concentrations of metals in sediments sampled at the Capesize stations were below applicable CCME guidelines for the protection of aquatic life (CCME 1999) and NOAA sediment benchmarks (Buchman 2008). As found in previous MEEMP years, PAHs and hydrocarbons were not detected in sediments sampled from Milne Port in 2024.

Iron concentrations in Milne Inlet have been flagged by Inuit to be of concern due to the potential for increased deposition of iron ore in the form of dust or in runoff from storage stockpiles. Marine sediment guidelines for iron are not currently available and, as such, the Capesize station sediment data for iron were evaluated using a similar statistical approach used to evaluate the proportion of fine sediments at the eight Capesize stations,

consistent with previous MEEMP reports. There was an overall statistically significant decrease in iron concentration at the Capesize vessel stations between 2024 and existing conditions in 2023 prior to the use of Capesize vessels. As discussed for fines content above, the visual change in iron between 2023 and 2024 at individual stations varied, with some stations showing an increase, some stations staying approximately the same, and some showing a decrease. Iron concentrations were also most variable at stations closer to the Ore Dock, followed by a reduction in concentrations at stations SE18-1, SVC-2, and SW-2, and a gradual increase in concentration with increasing distance from the Ore Dock.

3.6 Conclusions and Recommendations

The 2024 sediment program results largely remained within original FEIS predictions and subsequent addenda (Baffinland 2012, 2013). These predictions forecasted no significant residual effects on sediment quality but indicated the potential for minor localized sediment disturbance associated with propeller wash, which is expected to stabilize over time, as well as the potential for minor localized increases in nutrients, metal, or hydrocarbon concentrations.

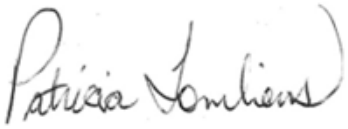
Sediment concentrations at the Capesize sampling stations were below CCME guidelines for the protection of aquatic life in 2024 for parameters analyzed and hydrocarbons were not detected in the sediment sampled. Additionally, comparison of sediment quality in 2024 (after the use of Capesize vessels) with existing conditions in 2023 (prior to use of these larger vessels) and comparison to estimated scour predictions for the Capesize vessels, did not suggest a clear pattern indicative of Port-related effects beyond FEIS predictions and subsequent addenda. Reduced fines at two stations along the Western Transect and outside the zone of influence for potential scouring predicted by WSP (2023) should be confirmed by monitoring in 2025 as these stations are also predisposed to influence from natural factors (such as ice movement, coastal sediment processes, and potential influence from the entry of Phillips Creek to the inlet). It is important to note that, regardless of potential propeller wash influence, benthic infauna densities at these two stations were not significantly different in 2024 and 2023 and both stations continue to support diverse benthic invertebrate communities.

A consideration in order to gain a better understanding of potential scouring effects outside of the predicted zone of influence for the Capesize vessels versus influence from natural coastal processes, would be to extend the 2025 Capesize Vessel sampling program along the West Transect to include SW-5 and SW-6, for a total of ten stations for sediment quality and benthic infauna sampling.

3.7 Closure

We trust this information is sufficient for your needs at this time. Should you have any questions or concerns, please do not hesitate to contact Phil Rouget, on behalf of the undersigned, at +1 250 419 4945.

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https://wsponlinecan.sharepoint.com/sites/ca-ca00263176821/shared documents/06. deliverables/issued to client_for wp/3.0_issued/ca0026317.6821-048-r-rev0/ca0026317.6821-048-r-rev0-86000 2024 meemp_3.0 marine sediment quality-25apr_25.docx

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APPENDIX 3A

Site Photographs



Photo 1 – **Sediment sampling location SW-1 on 18 August 2024.**

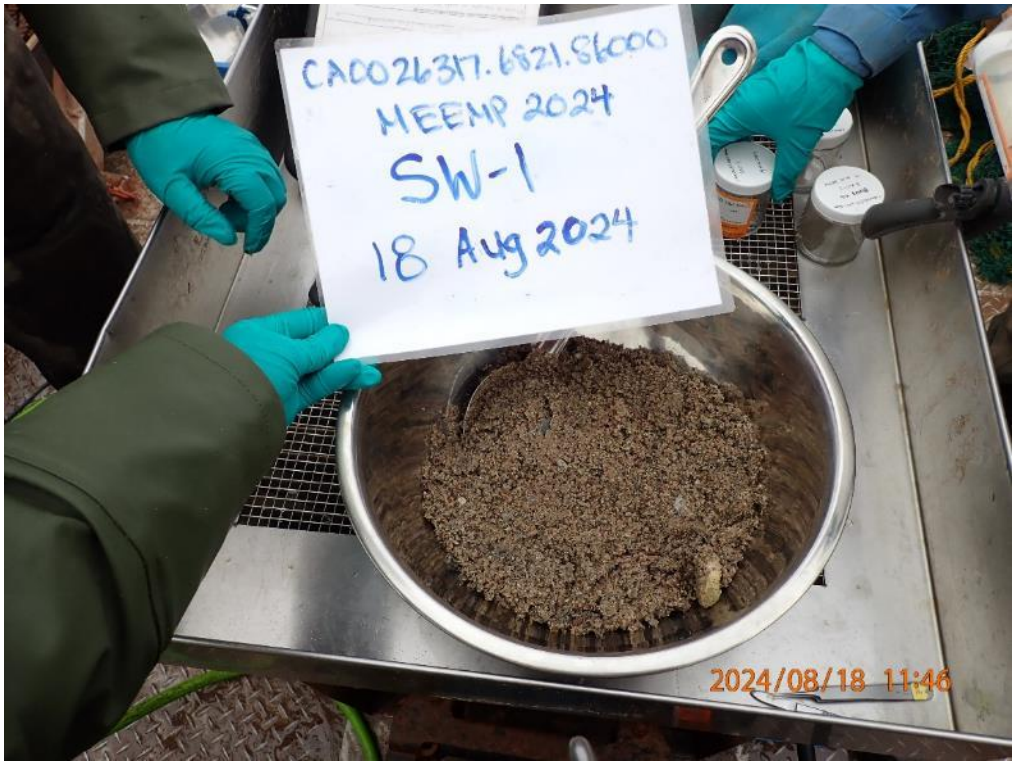


Photo 2 – Homogenized sediment sample collected from station SW-1 on 18 August 2024.



Photo 3 – Sediment sampling location SW-2 on 12 August 2024.



Photo 4 – Decanted sediment sample collected from station SW-2 on 12 August 2024.



Photo 5 – Sediment sampling location SW-3 on 10 August 2024.



Photo 6 – Homogenized sediment sample collected from station SW-3 on 10 August 2024.



Photo 7 – Sediment sampling location SW-4 on 18 August 2024 looking southwest.



Photo 8 – Homogenized sediment sample collected from station SW-4 on 18 August 2024.



Photo 9 – Sediment sampling location SCV-1 on 12 August 2024 looking southwest.

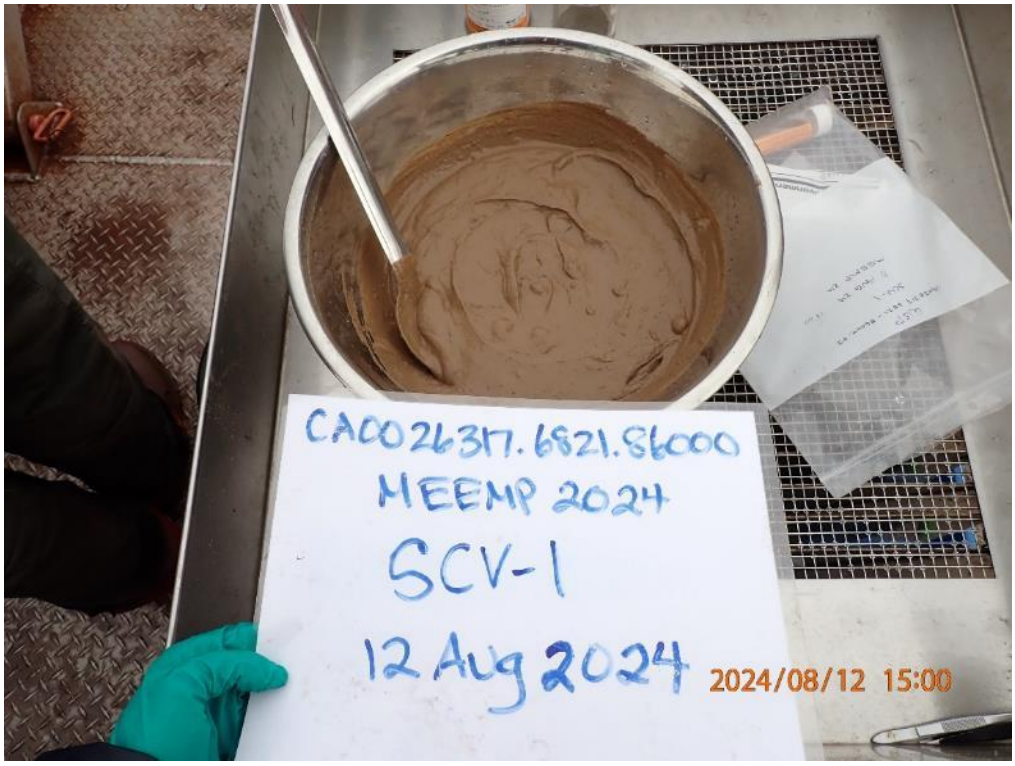


Photo 10 – Homogenized sediment sample collected from station SCV-1 on 12 August 2024.



Photo 11 – Decanted sediment sample collected from station SCV-2 on 13 August 2024.

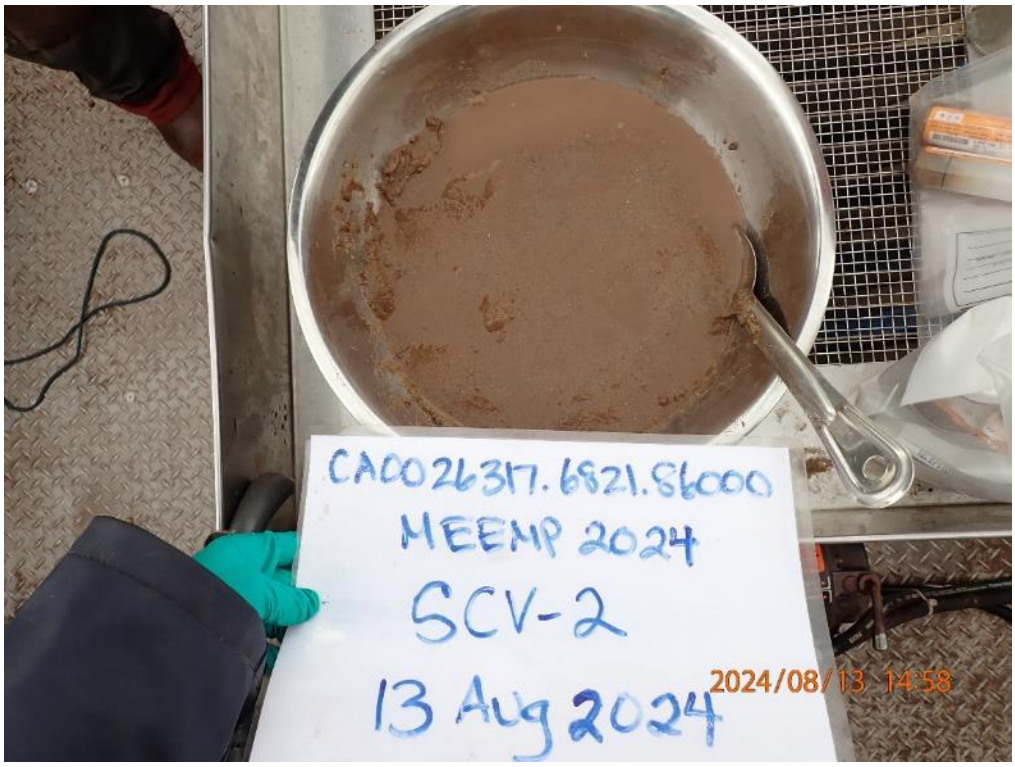


Photo 12 – Homogenized sediment sample collected from station SCV-2 on 13 August 2024.



Photo 13 – Sediment sampling location SE18-1 on 17 August 2024 looking south.



Photo 14 – Homogenized sediment sample collected from station SE18-1 on 17 August 2024.



Photo 15 – Decanted sediment sample collected from station SNW-1 on 17 August 2024.

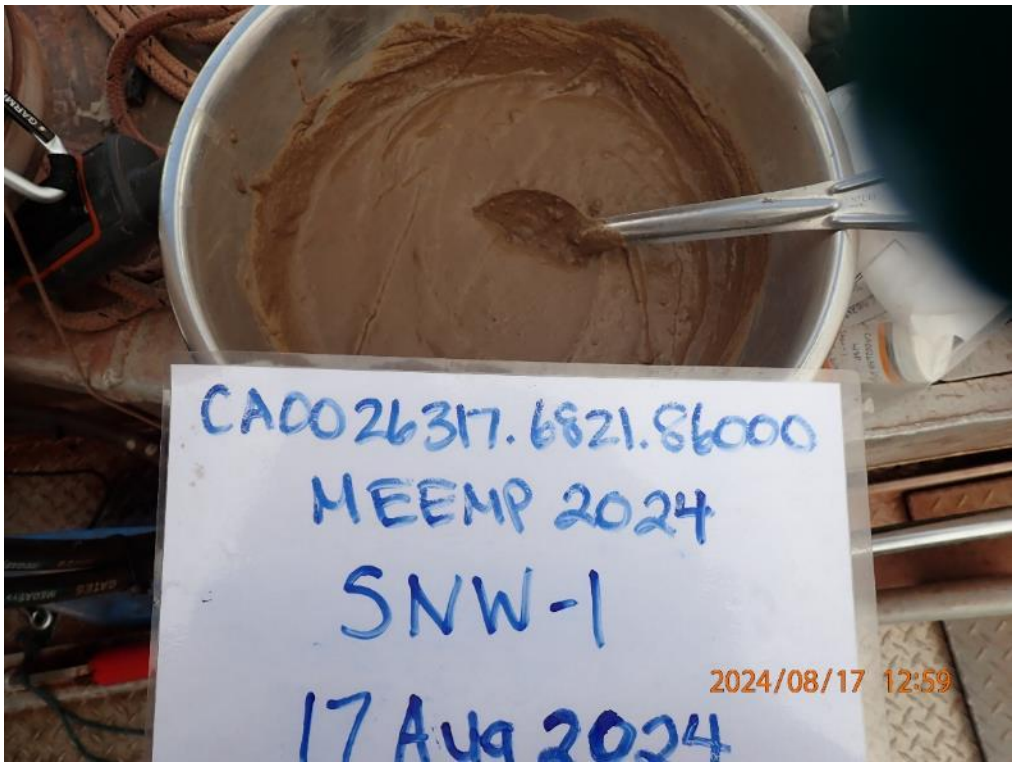


Photo 16 – Homogenized sediment sample collected from station SNW-1 on 17 August 2024.

APPENDIX 3B

Sediment Field Datasheets

SEDIMENT SAMPLING LOG

Project No: [redacted] CA0026317.6821.
Project Title: Baffinland MEEMP [redacted] 2024
Date: 86000 10 Aug 2024
Inspected by: TT
Station Number (ID): SW-3
Sampling Method: Van Veen
Weather: Clear some cloud cover, 8-10°C 8-11 KTS NE
Lat/Longitude: WP 263
Sampling Depth: 5.16.1m
of Attempts to Obtain Sample: 11
Time of Collection: 15:30 - 16:10 sample collin 15:30

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, HC sheen, staining, organisms/biota etc.):

Sand, wet, Brown, loose, 100% f-c sand, low plasticity contains hyatella, cockle, mya, pectanarid, some algae (desmeresdia), brittle star, no sheen, no odour.

Approx % collected in grab sample 5.5cm, 15-20% - collected top 5cm %

Photograph Notes (grab, sampling location, field sampling methods, public use, etc):
Photo of sample in grab and homogenized

Sample Control Number (SCN):

Analysis for:
- ☑ Full Metals
- ☑ PAH
- ☐ TBT
- ☐ ~~Grain Size~~
- ☐ Benthic
- ☐ AVS CEM
- ☐ PCB
- ☐ Dioxins and Furans
- ☐ PFOA/PFOS
- ☑ Other TOC, TIC

AEC:
of Grabs for Analysis:
Other Notes:

3 jars + 1 bag + 2 vials

SAMPLE NUMBER: _____

SEDIMENT SAMPLING LOG

Project No: [redacted] CA00 26317.6821
Project Title: Baffinland MEEMP [redacted] 2024
Date: 12 Aug 2024
Inspected by: TT
Station Number (ID): SW-2
Sampling Method: VV
Weather: Overcast, low light, 5-7°C, 10-12 kts SE
Lat/Longitude: WP 267 17W 503052mE 7976533mN
Sampling Depth: 17.5m
of Attempts to Obtain Sample: 11
Time of Collection: 10:20 - 10:53
Sample coll'n 10:40

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, HC sheen, staining, organisms/biota etc.):

Grab 1 - rock in grab jaws
Grab 2 - surface intact, overlying water, jaws of grab closed
Appears to be an iron layer below 1-2 mm of sediment,
SAND, moist, loose, brown, 100% f-c sand contains trace fine gravel, polychaetes, no sheen and no odour noted

Approx % collected in grab sample 55-60% (7.5 cm depth) collected top 5cm %

Photograph Notes (grab, sampling location, field sampling methods, public use, etc):
Photo of sample in grab, site photos, homogenized sample

Sample Control Number (SCN):

Analysis for:
- ☑ Full Metals
- ☑ PAH
- ☐ TBT
- ☑ Grain Size
- ☐ Benthic
- ☐ AVS CEM
- ☐ PCB
- ☐ Dioxins and Furans
- ☐ PFOA/PFOS
- ☑ Other TOC, TIC, moisture

AEC:
of Grabs for Analysis:
Other Notes:

3 jars + 1 bag + 2 vials

SAMPLE NUMBER: _____

SEDIMENT SAMPLING LOG

Project No: [redacted] CA0026317.6821 Project Title: Baffinland MEEMP [redacted] 2024

Date: 12 Aug 2024 Inspected by: TT

Station Number (ID): SCV-1 Sampling Method: VV

Weather: Overcast, 7-9°C, 10-12kts SE Lat/Longitude: ~~WP270~~ WP location

Sampling Depth: 35.4m

of Attempts to Obtain Sample: 1 Time of Collection: ~~14:05~~ 14:50-15:15
Sample Collected 15:00

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, HC sheen, staining, organisms/biota etc.):

1-2 mm brown SILTY SAND layer overtop of a greyish brown SAND and SILT layer.

SAND and SILT, moist, loose, brown, 60% f-c sand, 40% fines, low plasticity, contains brittlestars, amphipods, trace shell debris, trace gravel (subrounded and subangular, Ophelina, greenland scallop

Approx % collected in grab sample _____ %

Photograph Notes (grab, sampling location, field sampling methods, public use, etc):

Site photos, sample in grab and homogenized sample

Sample Control Number (SCN):

Analysis for:

- ☑ Full Metals
- ☑ PAH
- ☐ TBT
- ☑ Grain Size
- ☐ Benthic
- ☐ AVS CEM
- ☐ PCB
- ☐ Dioxins and Furans
- ☐ PFOA/PFOS
- ☑ Other TOC, TIC, moisture

AEC: _____ # of Grabs for Analysis: _____

Other Notes:

3 jars + 1 bag + 2 vials

SAMPLE NUMBER: _____

SEDIMENT SAMPLING LOG

Project No: [redacted] CA0026317.6821 Project Title: Baffinland MEEMP [redacted] 2024

Date: 13 August 2024 Inspected by: TT

Station Number (ID): SCV-2 / DUP-B Sampling Method: VV

Weather: Overcast, low lying fog, 8-10kts SW, 9-11°C Lat/Longitude: WP 273 17W 503087mE 7976586mN

Sampling Depth: 25.0m

of Attempts to Obtain Sample: III Time of Collection: 14:20 - 15:05
14:45 - sample collected

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, HC sheen, staining, organisms/biota etc.):

Grabs 1+2 - clam and gravel caught in jaws of grab

2-3 mm reddish brown SAND overtop a grey SAND

SAND, wet, loose, reddish brown, 100% f-coarse sand, low plasticity, contains Hiatella, Pectinaria, trace gravel (subangular, subrounded), Macoma, some shell debris, no odour and no sheen noted.

Approx % collected in grab sample Grabs 3 (40-45%, 5.5cm depth) %

Photograph Notes (grab, sampling location, field sampling methods, public use, etc):

Sample in grab, homogenized sample, s

Sample Control Number (SCN):

Analysis for:

- ☑ Full Metals
- ☑ PAH
- ☐ TBT
- ☑ Grain Size
- ☐ Benthic
- ☐ AVS CEM
- ☐ PCB
- ☐ Dioxins and Furans
- ☐ PFOA/PFOS
- ☑ Other TOC, TIC

AEC: # of Grabs for Analysis:

Other Notes:

(3 jars + 2 vials + 1 bag) x 2

SAMPLE NUMBER: _____

SEDIMENT SAMPLING LOG

Project No: [redacted] CA0026317.6821 Project Title: Baffinland MEEMP [redacted] 2024

Date: 86000 17 Aug 2024 Inspected by: TT

Station Number (ID): SNW-1 Sampling Method: VV

Weather: Overcast, 3-4kts NW, 7-10°C Lat/Longitude: WP282 17W 503301mE 7976745mN

Sampling Depth: 33.8m

of Attempts to Obtain Sample: 1 Time of Collection: 12:25 - 13:10 sample time 12:30

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, HC sheen, staining, organisms/biota etc.):

Grab 1 - surface intact, overlying water, jaws closed
2-3 mm reddish brown SILTY SAND layer overtop of a grey SILT with SAND layer

GRAVELLY SILT and SAND, moist, brown, loose, 50% fines, 35% f-c sand, 15% f-c gravel (subangular, subrounded), contains brittlestars, polys, greenland scallop, no sheen and no odour noted

15%
55%
30%

Approx % collected in grab sample Grab 1 (55-60%, 7cm) - collected top 5cm %

Photograph Notes (grab, sampling location, field sampling methods, public use, etc):

Photo of sample in grab, homogenized sample

Sample Control Number (SCN):

Analysis for:

- [x] Full Metals
- [x] PAH
- [ ] TBT
- [x] Grain Size
- [ ] Benthic
- [ ] AVS CEM
- [ ] PCB
- [ ] Dioxins and Furans
- [ ] PFOA/PFOS
- [x] Other TOC, TIC, moisture

AEC: # of Grabs for Analysis:

Other Notes:

3 jars + 1 bag + 2 vials

SAMPLE NUMBER: _____

SEDIMENT SAMPLING LOG

Project No: [redacted] CA0026317.6821.86000.03

Project Title: Baffinland MEEMP [redacted] 2024

Date: 17 Aug 24

Inspected by: TT

Station Number (ID): SE18-1

Sampling Method: VV

Weather: Overcast, 4-5kts NW, 7-10°C

Lat/Longitude: on WP location

Sampling Depth: 17.1 m

of Attempts to Obtain Sample: 1

Time of Collection: 10:50 - 11:20
Sample collected 11:00

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, HC sheen, staining, organisms/biota etc.):

Grab - surface intact, overlying water

SAND, wet, greyish brown, loose, 100% f-c sand, low plasticity contains amphipods, whole shell debris, trace f-c gravel (subangular, subrounded), Pectinarid, Hiatella, Astarte, polys, no sheen and no odour noted

Approx % collected in grab sample Grab 1 - 30-35% (5.5cm) - sampled 5cm %

Photograph Notes (grab, sampling location, field sampling methods, public use, etc):

Photo of sample in grab, homogenized sample,

Sample Control Number (SCN):

Analysis for:

- ☑ Full Metals
- ☑ PAH
- ☐ TBT
- ☑ Grain Size
- ☐ Benthic
- ☐ AVS CEM
- ☐ PCB
- ☐ Dioxins and Furans
- ☐ PFOA/PFOS
- ☑ Other TOC, TIC, moisture

AEC: # of Grabs for Analysis:

Other Notes:

3 jars + 1 bag + 2 vials

SAMPLE NUMBER: _____

SEDIMENT SAMPLING LOG

Project No: [redacted] CA0026317.6821.86000

Project Title: Baffinland MEEMP [redacted] 2024

Date: 18 Aug 24

Inspected by: TT

Station Number (ID): SW-1

Sampling Method: VV

Weather: Overcast, 5-7kts SW, 7-9°C

Lat/Longitude: on WP 288 17W 503162mE 7976554 mN

Sampling Depth: 11.0m

of Attempts to Obtain Sample: 111

Time of Collection: 11:20 - 11:48
Sample Colln 11:30

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, HC sheen, staining, organisms/biota etc.):

Grab 1,2 - rock caught in jaws of grab
Grab 3, surface intact, overlying water, jaws sealed

SAND with GRAVEL, moist, loose, brownish grey, 70% f-c sand, 30% f-c gravel (subangular, subrounded), low plasticity, contains trace shell debris, no odour and no sheen noted

Approx % collected in grab sample Grab 3 (70-75%, 11cm) 5cm collected %

Photograph Notes (grab, sampling location, field sampling methods, public use, etc):

Photo of sample in grab, homogenized sample

Sample Control Number (SCN):

Analysis for:

- ☑ Full Metals
- ☑ PAH
- ☐ TBT
- ☑ Grain Size
- ☐ Benthic
- ☐ AVS CEM
- ☐ PCB
- ☐ Dioxins and Furans
- ☐ PFOA/PFOS
- ☑ Other TOC, TIC, moisture

AEC:

of Grabs for Analysis:

Other Notes:

3 jars + 1 bag + 2 vials

SAMPLE NUMBER: _____

SEDIMENT SAMPLING LOG

Project No: [redacted]-CA00 26317.6821.86000 Project Title: Baffinland [redacted] MEE MP 2024

Date: 18 Aug 2024 Inspected by: TT

Station Number (ID): SW-4 Sampling Method: VV

Weather: Overcast, 2-3kts SW, 6-8°C Lat/Longitude: WP 284 17W 502867mE 7976434mN

Sampling Depth: 16.4m

of Attempts to Obtain Sample: 111 Time of Collection: 9:10 - 10:05 sample coll'n 9:30

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, HC sheen, staining, organisms/biota etc.):

Grab 1 (10-15'l.), Grab 2 - surface intact, overlying water, jaws closed
1-2mm reddish brown layer overtop of a grey layer
GRAVELLY SAND with SILT, wet, loose, brown, 15'l. gravel f-c (subrounded, subangular) 15'l. gravel
50'l. f-sand, 35'l. fines, low plasticity contains some whole shell debris, tube worms, amphipods, brittlestars, Hiatella, Astarte, Pectinarid,
Cool noted sheen or odour

Approx % collected in grab sample Grab 2 (25-30'l., 5cm depth) %

Photograph Notes (grab, sampling location, field sampling methods, public use, etc):

Site photos, photo of sample in grab, homogenized sample

Sample Control Number (SCN):

Analysis for:

- ☑ Full Metals
- ☑ PAH
- ☐ TBT
- ☑ Grain Size
- ☐ Benthic
- ☐ AVS CEM
- ☐ PCB
- ☐ Dioxins and Furans
- ☐ PFOA/PFOS
- ☑ Other TOC, TIC, moisture

AEC: # of Grabs for Analysis:

Other Notes:

3 jars + 1 bag + 2 vials

SAMPLE NUMBER: _____

APPENDIX 3C

Sediment Quality Laboratory Data

CERTIFICATE OF ANALYSIS

Work Order	: **VA24C1763**	Page	: 1 of 16
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Vancouver
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 22-Aug-2024 08:35
PO	: ----	Date Analysis Commenced	: 26-Aug-2024
C-O-C number	: ----	Issue Date	: 30-Aug-2024 16:24
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 12		
No. of samples analysed	: 12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Colby Bingham	Laboratory Supervisor	Inorganics, Saskatoon, Saskatchewan
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Hedy Lai	Team Leader - Inorganics	Inorganics, Saskatoon, Saskatchewan
Hedy Lai	Team Leader - Inorganics	Sask Soils, Saskatoon, Saskatchewan
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Paul Cushing	Team Leader - Organics	Organics, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
%	percent
mg/kg	milligrams per kilogram
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	*Description*
DLQ	*Detection Limit raised due to co-eluting interference. Mass Spectrometry qualifier ion ratio did not meet acceptance criteria.*

Analytical Results

Sub-Matrix: **Sediment**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SW-3	SW-2	SCV-1	SCV-2	SNW-1
					Client sampling date / time	10-Aug-2024 15:30	12-Aug-2024 10:40	12-Aug-2024 15:00	13-Aug-2024 14:45	17-Aug-2024 12:30
						VA24C1763-001	VA24C1763-002	VA24C1763-003	VA24C1763-004	VA24C1763-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/VA	0.25	%		21.1	17.0	23.2	16.8	19.8
pH (1:2 soil:water)	----	E108/VA	0.10	pH units		8.59	8.81	8.34	8.58	8.37
Particle Size										
Gravel (>2mm)	----	EC184E/SK	1.0	%		<1.0	1.0	10.2	<1.0	8.5
Sand (2.0mm - 0.063mm)	----	EC184E/SK	1.0	%		92.3	95.5	47.1	94.1	64.5
Silt (0.063mm - 0.004mm)	----	EC184E/SK	1.0	%		5.5	2.2	35.3	3.8	21.5
Clay (<0.004mm)	----	EC184E/SK	1.0	%		1.9	1.3	7.4	1.4	5.5
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		1.6	1.2	5.6	1.2	4.2
Passing (0.004mm)	----	E184/SK	1.0	%		1.9	1.3	7.4	1.4	5.5
Passing (0.005mm)	----	E184/SK	1.0	%		2.0	1.3	8.4	1.5	6.1
Passing (0.020mm)	----	E184/SK	1.0	%		3.5	1.9	20.3	2.6	13.9
Passing (0.0312mm)	----	E184/SK	1.0	%		4.4	2.4	27.5	3.3	18.1
Passing (0.05mm)	----	E182/SK	1.0	%		5.9	3.0	39.6	4.5	25.3
Passing (0.063mm)	----	E182/SK	1.0	%		7.4	3.5	42.7	5.2	27.0
Passing (0.075mm)	----	E182/SK	1.0	%		8.8	4.0	45.5	5.8	28.5
Passing (0.125mm)	----	E182/SK	1.0	%		14.6	5.8	57.2	8.4	34.9
Passing (0.149mm)	----	E182/SK	1.0	%		27.1	12.8	60.1	14.7	40.0
Passing (0.250mm)	----	E182/SK	1.0	%		79.8	42.0	72.2	41.5	61.3
Passing (0.420mm)	----	E182/SK	1.0	%		92.9	73.9	79.7	70.5	76.0
Passing (0.50mm)	----	E182/SK	1.0	%		99.0	88.8	83.2	84.1	82.9
Passing (0.841mm)	----	E182/SK	1.0	%		99.4	94.4	86.1	91.8	86.7
Passing (1.0mm)	----	E182/SK	1.0	%		99.6	97.1	87.5	95.4	88.4
Passing (19mm)	----	E181/SK	1.0	%		100	100	100	100	100
Passing (2.0mm)	----	E181/SK	1.0	%		99.7	99.0	89.8	99.3	91.5
Passing (25.4mm)	----	E181/SK	1.0	%		100	100	100	100	100
Passing (38.1mm)	----	E181/SK	1.0	%		100	100	100	100	100
Passing (4.75mm)	----	E181/SK	1.0	%		99.8	99.5	91.9	99.8	95.5
Passing (50.8mm)	----	E181/SK	1.0	%		100	100	100	100	100

Analytical Results

Sub-Matrix: **Sediment**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SW-3	SW-2	SCV-1	SCV-2	SNW-1
					Client sampling date / time	10-Aug-2024 15:30	12-Aug-2024 10:40	12-Aug-2024 15:00	13-Aug-2024 14:45	17-Aug-2024 12:30
						VA24C1763-001	VA24C1763-002	VA24C1763-003	VA24C1763-004	VA24C1763-005
						Result	Result	Result	Result	Result
Percent Passing										
Passing (76.2mm)	----	E181/SK	1.0	%		100	100	100	100	100
Passing (9.5mm)	----	E181/SK	1.0	%		99.8	100	94.6	100	100
Organic / Inorganic Carbon										
Carbon, total [TC]	----	E351/SK	0.050	%		1.59	1.09	4.33	1.14	3.04
Carbon, inorganic [IC]	----	E354/SK	0.050	%		0.868	0.772	1.70	0.694	1.40
Carbon, inorganic [IC], (as CaCO3 equivalent)	----	E354/SK	0.40	%		7.24	6.43	14.2	5.79	11.7
Carbon, total organic [TOC]	----	EC356/SK	0.050	%		0.722	0.318	2.63	0.446	1.64
Organic matter	----	EC356/SK	0.10	%		1.24	0.55	4.53	0.77	2.83
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg		2450	1180	5210	1530	4550
Antimony	7440-36-0	E440/VA	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E440/VA	0.10	mg/kg		1.48	0.51	3.61	1.17	3.74
Barium	7440-39-3	E440/VA	0.50	mg/kg		9.24	4.32	14.9	4.25	12.4
Beryllium	7440-41-7	E440/VA	0.10	mg/kg		0.14	<0.10	0.32	0.10	0.28
Bismuth	7440-69-9	E440/VA	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Boron	7440-42-8	E440/VA	5.0	mg/kg		13.8	8.4	36.1	10.9	31.1
Cadmium	7440-43-9	E440/VA	0.020	mg/kg		<0.020	<0.020	0.049	<0.020	0.035
Calcium	7440-70-2	E440/VA	50	mg/kg		26400	18400	70000	18700	51900
Chromium	7440-47-3	E440/VA	0.50	mg/kg		9.51	4.50	17.6	5.28	14.7
Cobalt	7440-48-4	E440/VA	0.10	mg/kg		1.95	0.84	3.16	0.98	3.04
Copper	7440-50-8	E440/VA	0.50	mg/kg		2.40	1.36	6.46	1.48	6.12
Iron	7439-89-6	E440/VA	50	mg/kg		11400	3830	14500	5040	25300
Lead	7439-92-1	E440/VA	0.50	mg/kg		1.93	1.04	4.52	1.58	3.86
Lithium	7439-93-2	E440/VA	2.0	mg/kg		10.5	5.5	23.5	6.9	20.0
Magnesium	7439-95-4	E440/VA	20	mg/kg		14400	10100	38100	10400	27500
Manganese	7439-96-5	E440/VA	1.0	mg/kg		78.5	34.0	136	39.8	138
Mercury	7439-97-6	E510/VA	0.0050	mg/kg		<0.0050	<0.0050	0.0090	<0.0050	0.0075
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg		0.24	0.12	0.36	0.12	0.47
Nickel	7440-02-0	E440/VA	0.50	mg/kg		5.47	2.38	9.60	2.72	8.41
Phosphorus	7723-14-0	E440/VA	50	mg/kg		253	143	424	146	365

Analytical Results

Sub-Matrix: **Sediment**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SW-3	SW-2	SCV-1	SCV-2	SNW-1
					Client sampling date / time	10-Aug-2024 15:30	12-Aug-2024 10:40	12-Aug-2024 15:00	13-Aug-2024 14:45	17-Aug-2024 12:30
						VA24C1763-001	VA24C1763-002	VA24C1763-003	VA24C1763-004	VA24C1763-005
						Result	Result	Result	Result	Result
Metals										
Potassium	7440-09-7	E440/VA	100	mg/kg		1190	560	2240	740	1880
Selenium	7782-49-2	E440/VA	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440/VA	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	7440-23-5	E440/VA	50	mg/kg		2090	2050	4010	1970	3330
Strontium	7440-24-6	E440/VA	0.50	mg/kg		19.6	12.6	46.7	14.1	36.1
Sulfur	7704-34-9	E440/VA	1000	mg/kg		<1000	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/VA	0.050	mg/kg		0.063	<0.050	0.092	<0.050	0.075
Tin	7440-31-5	E440/VA	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	7440-32-6	E440/VA	1.0	mg/kg		197	76.0	234	92.8	196
Tungsten	7440-33-7	E440/VA	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	7440-61-1	E440/VA	0.050	mg/kg		0.387	0.180	0.784	0.229	0.718
Vanadium	7440-62-2	E440/VA	0.20	mg/kg		8.88	4.66	18.9	5.33	16.0
Zinc	7440-66-6	E440/VA	2.0	mg/kg		8.1	3.9	14.8	4.4	13.2
Zirconium	7440-67-7	E440/VA	1.0	mg/kg		2.6	1.6	5.9	2.0	5.2
Volatile Organic Compounds										
Benzene	71-43-2	E611C/VA	0.0050	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromodichloromethane	75-27-4	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Bromoform	75-25-2	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Carbon tetrachloride	56-23-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	108-90-7	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Chloroethane	75-00-3	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Chloroform	67-66-3	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Chloromethane	74-87-3	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	124-48-1	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,2-	95-50-1	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,3-	541-73-1	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,4-	106-46-7	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,1-	75-34-3	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,2-	107-06-2	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, 1,1-	75-35-4	E611C/VA	0.050	mg/kg		<0.140 DLQ	<0.050	<0.210 DLQ	<0.110 DLQ	<0.115 DLQ

Analytical Results

Sub-Matrix: **Sediment**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SW-3	SW-2	SCV-1	SCV-2	SNW-1
					Client sampling date / time	10-Aug-2024 15:30	12-Aug-2024 10:40	12-Aug-2024 15:00	13-Aug-2024 14:45	17-Aug-2024 12:30
						VA24C1763-001	VA24C1763-002	VA24C1763-003	VA24C1763-004	VA24C1763-005
						Result	Result	Result	Result	Result
Volatile Organic Compounds										
Dichloroethylene, cis-1,2-	156-59-2	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, trans-1,2-	156-60-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichloromethane	75-09-2	E611C/VA	0.045	mg/kg		<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	78-87-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, cis+trans-1,3-	542-75-6	E611C/VA	0.075	mg/kg		<0.075	<0.075	<0.075	<0.075	<0.075
Dichloropropylene, cis-1,3-	10061-01-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, trans-1,3-	10061-02-6	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	100-41-4	E611C/VA	0.015	mg/kg		<0.015	<0.015	<0.015	<0.015	<0.015
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C/VA	0.040	mg/kg		<0.040	<0.040	<0.040	<0.040	<0.040
Styrene	100-42-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene	127-18-4	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	108-88-3	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	71-55-6	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,2-	79-00-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	79-01-6	E611C/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	75-69-4	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Vinyl chloride	75-01-4	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, m+p-	179601-23-1	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, o-	95-47-6	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Xylenes, total	1330-20-7	E611C/VA	0.075	mg/kg		<0.075	<0.075	<0.075	<0.075	<0.075
Hydrocarbons										
Chromatogram to baseline at nC50	n/a	E601.SG/VA	-	-		Yes	Yes	Yes	Yes	Yes
EPH (C10-C19)	----	E601A/VA	200	mg/kg		<200	<200	<200	<200	<200
EPH (C19-C32)	----	E601A/VA	200	mg/kg		<200	<200	<200	<200	<200
F1 (C6-C10)	----	E581.VH+F1/VA	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	----	E601.SG/VA	25	mg/kg		<25	<25	<25	<25	<25
F3 (C16-C34)	----	E601.SG/VA	50	mg/kg		<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: **Sediment**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SW-3	SW-2	SCV-1	SCV-2	SNW-1
					Client sampling date / time	10-Aug-2024 15:30	12-Aug-2024 10:40	12-Aug-2024 15:00	13-Aug-2024 14:45	17-Aug-2024 12:30
						VA24C1763-001	VA24C1763-002	VA24C1763-003	VA24C1763-004	VA24C1763-005
						Result	Result	Result	Result	Result
Hydrocarbons										
F4 (C34-C50)	----	E601.SG/VA	50	mg/kg		<50	<50	<50	<50	<50
TEH (C10-C50)	n/a	E601.SG/VA	75	mg/kg		<75	<75	<75	<75	<75
TEH (C16-C50)	----	E601.SG/VA	75	mg/kg		<75	<75	<75	<75	<75
VHs (C6-C10)	----	E581.VH+F1/VA	10	mg/kg		<10	<10	<10	<10	<10
F1-BTEX	----	EC580/VA	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
HEPHs	----	EC600A/VA	200	mg/kg		<200	<200	<200	<200	<200
LEPHs	----	EC600A/VA	200	mg/kg		<200	<200	<200	<200	<200
VPHs	----	EC580A/VA	10	mg/kg		<10	<10	<10	<10	<10
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		88.4	84.2	74.6	83.3	83.1
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG/VA	1.0	%		74.6	66.0	61.5	72.4	67.6
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		93.1	75.5	87.2	88.6	83.8
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611C/VA	0.10	%		82.9	84.8	75.4	83.6	85.7
Difluorobenzene, 1,4-	540-36-3	E611C/VA	0.10	%		86.0	89.1	78.2	86.4	91.7
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A-L/VA	0.0050	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Acenaphthylene	208-96-8	E641A-L/VA	0.0050	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Acridine	260-94-6	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Anthracene	120-12-7	E641A-L/VA	0.0040	mg/kg		<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Benz(a)anthracene	56-55-3	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(a)pyrene	50-32-8	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b+j)fluoranthene	n/a	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b+j+k)fluoranthene	n/a	E641A-L/VA	0.015	mg/kg		<0.015	<0.015	<0.015	<0.015	<0.015
Benzo(g,h,i)perylene	191-24-2	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(k)fluoranthene	207-08-9	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Chrysene	218-01-9	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Dibenz(a,h)anthracene	53-70-3	E641A-L/VA	0.0050	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Analytical Results

Sub-Matrix: **Sediment**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SW-3	SW-2	SCV-1	SCV-2	SNW-1
					Client sampling date / time	10-Aug-2024 15:30	12-Aug-2024 10:40	12-Aug-2024 15:00	13-Aug-2024 14:45	17-Aug-2024 12:30
						VA24C1763-001	VA24C1763-002	VA24C1763-003	VA24C1763-004	VA24C1763-005
						Result	Result	Result	Result	Result
Polycyclic Aromatic Hydrocarbons										
Fluoranthene	206-44-0	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Fluorene	86-73-7	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Methylnaphthalene, 1-	90-12-0	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Methylnaphthalene, 2-	91-57-6	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Naphthalene	91-20-3	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Phenanthrene	85-01-8	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Pyrene	129-00-0	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Quinoline	91-22-5	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
B(a)P total potency equivalents [B(a)P TPE]	----	E641A-L/VA	0.020	mg/kg		<0.020	<0.020	<0.020	<0.020	<0.020
IACR (CCME)	----	E641A-L/VA	0.150	-		<0.150	<0.150	<0.150	<0.150	<0.150
Polycyclic Aromatic Hydrocarbons Surrogates										
Acridine-d9	34749-75-2	E641A-L/VA	0.1	%		89.3	84.1	86.4	87.4	83.9
Chrysene-d12	1719-03-5	E641A-L/VA	0.1	%		95.5	91.8	90.4	87.0	88.2
Naphthalene-d8	1146-65-2	E641A-L/VA	0.1	%		95.8	91.1	89.6	89.2	92.1
Phenanthrene-d10	1517-22-2	E641A-L/VA	0.1	%		102	99.5	97.4	97.8	97.9

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: **Sediment**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SE18-1	SW-1	SW-4	DupB-SG	TGT-Ref-1-SG
					Client sampling date / time	17-Aug-2024 11:00	18-Aug-2024 11:30	18-Aug-2024 09:30	13-Aug-2024 00:00	09-Aug-2024 12:00
						VA24C1763-006	VA24C1763-007	VA24C1763-008	VA24C1763-009	VA24C1763-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/VA	0.25	%		----	----	----	----	27.7
Moisture	----	E144/VA	0.25	%		19.6	12.1	23.1	19.7	----
pH (1:2 soil:water)	----	E108/VA	0.10	pH units		8.49	9.03	8.47	8.57	----
Particle Size										
Gravel (>2mm)	----	EC184E/SK	1.0	%		1.5	20.2	29.9	1.1	----
Sand (2.0mm - 0.063mm)	----	EC184E/SK	1.0	%		92.1	78.6	54.9	94.2	----
Silt (0.063mm - 0.004mm)	----	EC184E/SK	1.0	%		4.6	1.2	12.5	3.3	----
Clay (<0.004mm)	----	EC184E/SK	1.0	%		1.8	<1.0	2.7	1.4	----
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		1.5	<1.0	2.2	1.2	----
Passing (0.004mm)	----	E184/SK	1.0	%		1.8	<1.0	2.7	1.4	----
Passing (0.005mm)	----	E184/SK	1.0	%		1.9	<1.0	3.0	1.4	----
Passing (0.020mm)	----	E184/SK	1.0	%		3.5	<1.0	6.5	2.6	----
Passing (0.0312mm)	----	E184/SK	1.0	%		4.3	<1.0	8.8	3.2	----
Passing (0.05mm)	----	E182/SK	1.0	%		5.6	1.1	12.6	4.1	----
Passing (0.063mm)	----	E182/SK	1.0	%		6.4	1.2	15.2	4.7	----
Passing (0.075mm)	----	E182/SK	1.0	%		7.1	1.2	17.6	5.3	----
Passing (0.125mm)	----	E182/SK	1.0	%		10.1	1.4	27.5	7.6	----
Passing (0.149mm)	----	E182/SK	1.0	%		15.8	2.4	33.6	14.2	----
Passing (0.250mm)	----	E182/SK	1.0	%		39.8	6.8	59.3	41.9	----
Passing (0.420mm)	----	E182/SK	1.0	%		68.0	23.5	62.8	72.1	----
Passing (0.50mm)	----	E182/SK	1.0	%		81.3	31.3	64.5	86.2	----
Passing (0.841mm)	----	E182/SK	1.0	%		91.2	48.8	66.3	93.2	----
Passing (1.0mm)	----	E182/SK	1.0	%		95.8	56.9	67.2	96.5	----
Passing (19mm)	----	E181/SK	1.0	%		100	96.0	92.7	100	----
Passing (2.0mm)	----	E181/SK	1.0	%		98.5	79.8	70.1	98.9	----
Passing (25.4mm)	----	E181/SK	1.0	%		100	96.0	100	100	----
Passing (38.1mm)	----	E181/SK	1.0	%		100	100	100	100	----
Passing (4.75mm)	----	E181/SK	1.0	%		99.1	90.0	75.4	99.4	----
Passing (50.8mm)	----	E181/SK	1.0	%		100	100	100	100	----

Analytical Results

Sub-Matrix: **Sediment**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SE18-1	SW-1	SW-4	DupB-SG	TGT-Ref-1-SG
					Client sampling date / time	17-Aug-2024 11:00	18-Aug-2024 11:30	18-Aug-2024 09:30	13-Aug-2024 00:00	09-Aug-2024 12:00
						VA24C1763-006	VA24C1763-007	VA24C1763-008	VA24C1763-009	VA24C1763-010
						Result	Result	Result	Result	Result
Percent Passing										
Passing (76.2mm)	----	E181/SK	1.0	%		100	100	100	100	----
Passing (9.5mm)	----	E181/SK	1.0	%		99.3	93.8	85.5	99.5	----
Organic / Inorganic Carbon										
Carbon, total [TC]	----	E351/SK	0.050	%		1.35	1.39	2.56	1.13	----
Carbon, inorganic [IC]	----	E354/SK	0.050	%		0.800	1.11	1.10	0.838	----
Carbon, inorganic [IC], (as CaCO3 equivalent)	----	E354/SK	0.40	%		6.66	9.24	9.14	6.98	----
Carbon, total organic [TOC]	----	EC356/SK	0.050	%		0.550	0.280	1.46	0.292	----
Organic matter	----	EC356/SK	0.10	%		0.95	0.48	2.52	0.50	----
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg		1690	1020	4000	1280	----
Antimony	7440-36-0	E440/VA	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	----
Arsenic	7440-38-2	E440/VA	0.10	mg/kg		1.35	0.36	3.59	0.93	----
Barium	7440-39-3	E440/VA	0.50	mg/kg		4.59	3.10	13.1	3.90	----
Beryllium	7440-41-7	E440/VA	0.10	mg/kg		0.11	<0.10	0.23	<0.10	----
Bismuth	7440-69-9	E440/VA	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	----
Boron	7440-42-8	E440/VA	5.0	mg/kg		12.3	7.6	25.3	8.7	----
Cadmium	7440-43-9	E440/VA	0.020	mg/kg		<0.020	<0.020	0.059	<0.020	----
Calcium	7440-70-2	E440/VA	50	mg/kg		20500	23200	49800	18100	----
Chromium	7440-47-3	E440/VA	0.50	mg/kg		6.19	3.05	14.8	5.52	----
Cobalt	7440-48-4	E440/VA	0.10	mg/kg		1.14	0.64	2.67	0.93	----
Copper	7440-50-8	E440/VA	0.50	mg/kg		2.14	1.15	4.27	1.36	----
Iron	7439-89-6	E440/VA	50	mg/kg		9620	2390	17800	3810	----
Lead	7439-92-1	E440/VA	0.50	mg/kg		1.56	0.85	2.93	1.08	----
Lithium	7439-93-2	E440/VA	2.0	mg/kg		7.4	4.9	17.7	6.3	----
Magnesium	7439-95-4	E440/VA	20	mg/kg		11300	10400	25600	9700	----
Manganese	7439-96-5	E440/VA	1.0	mg/kg		49.8	33.2	108	37.4	----
Mercury	7439-97-6	E510/VA	0.0050	mg/kg		<0.0050	<0.0050	0.0055	<0.0050	----
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg		0.20	0.10	0.57	0.10	----
Nickel	7440-02-0	E440/VA	0.50	mg/kg		3.15	1.57	8.08	2.71	----
Phosphorus	7723-14-0	E440/VA	50	mg/kg		166	133	388	116	----

Analytical Results

Sub-Matrix: **Sediment**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SE18-1	SW-1	SW-4	DupB-SG	TGT-Ref-1-SG
					Client sampling date / time	17-Aug-2024 11:00	18-Aug-2024 11:30	18-Aug-2024 09:30	13-Aug-2024 00:00	09-Aug-2024 12:00
						VA24C1763-006	VA24C1763-007	VA24C1763-008	VA24C1763-009	VA24C1763-010
						Result	Result	Result	Result	Result
Metals										
Potassium	7440-09-7	E440/VA	100	mg/kg		770	480	1800	650	----
Selenium	7782-49-2	E440/VA	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20	----
Silver	7440-22-4	E440/VA	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	----
Sodium	7440-23-5	E440/VA	50	mg/kg		2670	1330	3010	2540	----
Strontium	7440-24-6	E440/VA	0.50	mg/kg		15.4	16.0	46.2	12.7	----
Sulfur	7704-34-9	E440/VA	1000	mg/kg		<1000	<1000	<1000	<1000	----
Thallium	7440-28-0	E440/VA	0.050	mg/kg		<0.050	<0.050	0.081	<0.050	----
Tin	7440-31-5	E440/VA	2.0	mg/kg		<2.0	<2.0	<2.0	<2.0	----
Titanium	7440-32-6	E440/VA	1.0	mg/kg		101	53.2	256	87.4	----
Tungsten	7440-33-7	E440/VA	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	----
Uranium	7440-61-1	E440/VA	0.050	mg/kg		0.288	0.244	0.531	0.186	----
Vanadium	7440-62-2	E440/VA	0.20	mg/kg		6.29	3.17	14.5	4.83	----
Zinc	7440-66-6	E440/VA	2.0	mg/kg		5.3	3.1	12.5	4.8	----
Zirconium	7440-67-7	E440/VA	1.0	mg/kg		2.0	1.4	3.6	1.4	----
Volatile Organic Compounds										
Benzene	71-43-2	E611C/VA	0.0050	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromodichloromethane	75-27-4	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Bromoform	75-25-2	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Carbon tetrachloride	56-23-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	108-90-7	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Chloroethane	75-00-3	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Chloroform	67-66-3	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Chloromethane	74-87-3	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	124-48-1	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,2-	95-50-1	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,3-	541-73-1	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,4-	106-46-7	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,1-	75-34-3	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,2-	107-06-2	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, 1,1-	75-35-4	E611C/VA	0.050	mg/kg		<0.115 DLQ	<0.050	<0.050	<0.060 DLQ	<0.085 DLQ

Analytical Results

Sub-Matrix: **Sediment**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SE18-1	SW-1	SW-4	DupB-SG	TGT-Ref-1-SG
					Client sampling date / time	17-Aug-2024 11:00	18-Aug-2024 11:30	18-Aug-2024 09:30	13-Aug-2024 00:00	09-Aug-2024 12:00
						VA24C1763-006	VA24C1763-007	VA24C1763-008	VA24C1763-009	VA24C1763-010
						Result	Result	Result	Result	Result
Volatile Organic Compounds										
Dichloroethylene, cis-1,2-	156-59-2	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, trans-1,2-	156-60-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichloromethane	75-09-2	E611C/VA	0.045	mg/kg		<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	78-87-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, cis+trans-1,3-	542-75-6	E611C/VA	0.075	mg/kg		<0.075	<0.075	<0.075	<0.075	<0.075
Dichloropropylene, cis-1,3-	10061-01-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, trans-1,3-	10061-02-6	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	100-41-4	E611C/VA	0.015	mg/kg		<0.015	<0.015	<0.015	<0.015	<0.015
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C/VA	0.040	mg/kg		<0.040	<0.040	<0.040	<0.040	<0.040
Styrene	100-42-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene	127-18-4	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	108-88-3	E611C/VA	0.050	mg/kg		<0.050	0.057	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	71-55-6	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,2-	79-00-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	79-01-6	E611C/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	75-69-4	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Vinyl chloride	75-01-4	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, m+p-	179601-23-1	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, o-	95-47-6	E611C/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Xylenes, total	1330-20-7	E611C/VA	0.075	mg/kg		<0.075	<0.075	<0.075	<0.075	<0.075
Hydrocarbons										
Chromatogram to baseline at nC50	n/a	E601.SG/VA	-	-		Yes	Yes	No	Yes	----
EPH (C10-C19)	----	E601A/VA	200	mg/kg		<200	<200	<200	<200	----
EPH (C19-C32)	----	E601A/VA	200	mg/kg		<200	<200	<200	<200	----
F1 (C6-C10)	----	E581.VH+F1/VA	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	----	E601.SG/VA	25	mg/kg		<25	<25	<25	<25	----
F3 (C16-C34)	----	E601.SG/VA	50	mg/kg		<50	<50	<50	<50	----

Analytical Results

Sub-Matrix: **Sediment**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SE18-1	SW-1	SW-4	DupB-SG	TGT-Ref-1-SG
					Client sampling date / time	17-Aug-2024 11:00	18-Aug-2024 11:30	18-Aug-2024 09:30	13-Aug-2024 00:00	09-Aug-2024 12:00
						VA24C1763-006	VA24C1763-007	VA24C1763-008	VA24C1763-009	VA24C1763-010
						Result	Result	Result	Result	Result
Hydrocarbons										
F4 (C34-C50)	----	E601.SG/VA	50	mg/kg		<50	<50	<50	<50	----
TEH (C10-C50)	n/a	E601.SG/VA	75	mg/kg		<75	<75	<75	<75	----
TEH (C16-C50)	----	E601.SG/VA	75	mg/kg		<75	<75	<75	<75	----
VHs (C6-C10)	----	E581.VH+F1/VA	10	mg/kg		<10	<10	<10	<10	<10
F1-BTEX	----	EC580/VA	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
HEPHs	----	EC600A/VA	200	mg/kg		<200	<200	<200	<200	----
LEPHs	----	EC600A/VA	200	mg/kg		<200	<200	<200	<200	----
VPHs	----	EC580A/VA	10	mg/kg		<10	<10	<10	<10	<10
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		80.9	78.9	81.3	80.7	----
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG/VA	1.0	%		70.3	68.6	67.9	67.3	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		96.6	93.7	106	104	116
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611C/VA	0.10	%		84.9	101	86.6	85.0	97.7
Difluorobenzene, 1,4-	540-36-3	E611C/VA	0.10	%		89.7	110	92.2	88.8	102
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A-L/VA	0.0050	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	----
Acenaphthylene	208-96-8	E641A-L/VA	0.0050	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	----
Acridine	260-94-6	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Anthracene	120-12-7	E641A-L/VA	0.0040	mg/kg		<0.0040	<0.0040	<0.0040	<0.0040	----
Benz(a)anthracene	56-55-3	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Benzo(a)pyrene	50-32-8	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Benzo(b+j)fluoranthene	n/a	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Benzo(b+j+k)fluoranthene	n/a	E641A-L/VA	0.015	mg/kg		<0.015	<0.015	<0.015	<0.015	----
Benzo(g,h,i)perylene	191-24-2	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Chrysene	218-01-9	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A-L/VA	0.0050	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	----

Analytical Results

Sub-Matrix: **Sediment**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SE18-1	SW-1	SW-4	DupB-SG	TGT-Ref-1-SG
					Client sampling date / time	17-Aug-2024 11:00	18-Aug-2024 11:30	18-Aug-2024 09:30	13-Aug-2024 00:00	09-Aug-2024 12:00
						VA24C1763-006	VA24C1763-007	VA24C1763-008	VA24C1763-009	VA24C1763-010
						Result	Result	Result	Result	Result
Polycyclic Aromatic Hydrocarbons										
Fluoranthene	206-44-0	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Fluorene	86-73-7	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Naphthalene	91-20-3	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Phenanthrene	85-01-8	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Pyrene	129-00-0	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
Quinoline	91-22-5	E641A-L/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	----
B(a)P total potency equivalents [B(a)P TPE]	----	E641A-L/VA	0.020	mg/kg		<0.020	<0.020	<0.020	<0.020	----
IACR (CCME)	----	E641A-L/VA	0.150	-		<0.150	<0.150	<0.150	<0.150	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Acridine-d9	34749-75-2	E641A-L/VA	0.1	%		80.5	86.3	77.9	77.6	----
Chrysene-d12	1719-03-5	E641A-L/VA	0.1	%		83.4	86.2	82.1	83.4	----
Naphthalene-d8	1146-65-2	E641A-L/VA	0.1	%		88.4	89.1	86.8	87.3	----
Phenanthrene-d10	1517-22-2	E641A-L/VA	0.1	%		91.3	99.1	93.0	94.9	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: **Sediment**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	KLK-Ref-1-SG	DupA-SG	----	----	----
					Client sampling date / time	09-Aug-2024 10:00	09-Aug-2024 00:00	----	----	----
						VA24C1763-011	VA24C1763-012	--------	--------	--------
						Result	Result	----	----	----
Physical Tests										
Moisture	----	E144/VA	0.25	%		28.0	21.8	----	----	----
Volatile Organic Compounds										
Benzene	71-43-2	E611C/VA	0.0050	mg/kg		<0.0050	<0.0050	----	----	----
Bromodichloromethane	75-27-4	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Bromoform	75-25-2	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Carbon tetrachloride	56-23-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Chlorobenzene	108-90-7	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Chloroethane	75-00-3	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Chloroform	67-66-3	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Chloromethane	74-87-3	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Dibromochloromethane	124-48-1	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Dichlorobenzene, 1,2-	95-50-1	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Dichlorobenzene, 1,3-	541-73-1	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Dichlorobenzene, 1,4-	106-46-7	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Dichloroethane, 1,1-	75-34-3	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Dichloroethane, 1,2-	107-06-2	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Dichloroethylene, 1,1-	75-35-4	E611C/VA	0.050	mg/kg		<0.430 DLQ	<0.305 DLQ	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Dichloromethane	75-09-2	E611C/VA	0.045	mg/kg		<0.045	<0.045	----	----	----
Dichloropropane, 1,2-	78-87-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611C/VA	0.075	mg/kg		<0.075	<0.075	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Ethylbenzene	100-41-4	E611C/VA	0.015	mg/kg		<0.015	<0.015	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C/VA	0.040	mg/kg		<0.040	<0.040	----	----	----
Styrene	100-42-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Tetrachloroethylene	127-18-4	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----

Analytical Results

Sub-Matrix: Sediment (Matrix: Soil/Solid)					Client sample ID	KLK-Ref-1-SG	DupA-SG	----	----	----
					Client sampling date / time	09-Aug-2024 10:00	09-Aug-2024 00:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		VA24C1763-011	VA24C1763-012	--------	--------	--------
						Result	Result	----	----	----
Volatile Organic Compounds										
Toluene	108-88-3	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Trichloroethylene	79-01-6	E611C/VA	0.010	mg/kg		<0.010	<0.010	----	----	----
Trichlorofluoromethane	75-69-4	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Vinyl chloride	75-01-4	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Xylene, m+p-	179601-23-1	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Xylene, o-	95-47-6	E611C/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Xylenes, total	1330-20-7	E611C/VA	0.075	mg/kg		<0.075	<0.075	----	----	----
Hydrocarbons										
F1 (C6-C10)	----	E581.VH+F1/VA	5.0	mg/kg		<5.0	<5.0	----	----	----
VHs (C6-C10)	----	E581.VH+F1/VA	10	mg/kg		<10	<10	----	----	----
F1-BTEX	----	EC580/VA	5.0	mg/kg		<5.0	<5.0	----	----	----
VPHs	----	EC580A/VA	10	mg/kg		<10	<10	----	----	----
Hydrocarbons Surrogates										
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		109	102	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611C/VA	0.10	%		93.5	91.0	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611C/VA	0.10	%		99.0	96.1	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA24C1763**	Page	: 1 of 25
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Vancouver
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 22-Aug-2024 08:35
PO	: ----	Issue Date	: 30-Aug-2024 16:22
C-O-C number	: ----		
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 12		
No. of samples analysed	: 12		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Duplicate outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Soil/Solid**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Duplicate (DUP) RPDs								
Percent Passing	VA24C1763-001	SW-3	Passing (0.125mm)	----	E182	16.1 % PSDL	15%	Duplicate RPD does not meet the DQO for this test.

Result Qualifiers

Qualifier	*Description*
PSDL	*Particle size duplicate results exceed ALS RPD DQO, but are within 5% absolute difference and are considered reliable.*

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : BC PHCs - EPH by GC-FID										
Glass soil jar/Teflon lined cap										
DupB-SG	E601A	13-Aug-2024	26-Aug-2024	14 days	13 days	✓	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Glass soil jar/Teflon lined cap										
SCV-2	E601A	13-Aug-2024	26-Aug-2024	14 days	13 days	✓	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Glass soil jar/Teflon lined cap										
SCV-1	E601A	12-Aug-2024	26-Aug-2024	14 days	14 days	✓	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Glass soil jar/Teflon lined cap										
SW-2	E601A	12-Aug-2024	26-Aug-2024	14 days	14 days	✓	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Glass soil jar/Teflon lined cap										
SW-3	E601A	10-Aug-2024	26-Aug-2024	14 days	16 days	× EHT	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Glass soil jar/Teflon lined cap										
SW-1	E601A	18-Aug-2024	26-Aug-2024	14 days	8 days	✓	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Glass soil jar/Teflon lined cap										
SW-4	E601A	18-Aug-2024	26-Aug-2024	14 days	8 days	✓	27-Aug-2024	40 days	1 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : BC PHCs - EPH by GC-FID										
Glass soil jar/Teflon lined cap										
SE18-1	E601A	17-Aug-2024	26-Aug-2024	14 days	9 days	✓	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Glass soil jar/Teflon lined cap										
SNW-1	E601A	17-Aug-2024	26-Aug-2024	14 days	9 days	✓	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
DupB-SG	E601.SG	13-Aug-2024	26-Aug-2024	14 days	13 days	✓	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
SCV-2	E601.SG	13-Aug-2024	26-Aug-2024	14 days	13 days	✓	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
SCV-1	E601.SG	12-Aug-2024	26-Aug-2024	14 days	14 days	✓	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
SW-2	E601.SG	12-Aug-2024	26-Aug-2024	14 days	14 days	✓	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
SW-3	E601.SG	10-Aug-2024	26-Aug-2024	14 days	16 days	× EHT	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
SW-1	E601.SG	18-Aug-2024	26-Aug-2024	14 days	8 days	✓	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
SW-4	E601.SG	18-Aug-2024	26-Aug-2024	14 days	8 days	✓	27-Aug-2024	40 days	1 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
SE18-1	E601.SG	17-Aug-2024	26-Aug-2024	14 days	9 days	✓	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
SNW-1	E601.SG	17-Aug-2024	26-Aug-2024	14 days	9 days	✓	27-Aug-2024	40 days	1 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial										
SW-1	E581.VH+F1	18-Aug-2024	28-Aug-2024	40 days	10 days	✓	29-Aug-2024	40 days	11 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial										
SW-4	E581.VH+F1	18-Aug-2024	28-Aug-2024	40 days	10 days	✓	29-Aug-2024	40 days	11 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial										
SE18-1	E581.VH+F1	17-Aug-2024	28-Aug-2024	40 days	11 days	✓	29-Aug-2024	40 days	12 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial										
SNW-1	E581.VH+F1	17-Aug-2024	28-Aug-2024	40 days	11 days	✓	29-Aug-2024	40 days	12 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial										
DupB-SG	E581.VH+F1	13-Aug-2024	28-Aug-2024	40 days	15 days	✓	29-Aug-2024	40 days	15 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial										
SCV-2	E581.VH+F1	13-Aug-2024	28-Aug-2024	40 days	15 days	✓	29-Aug-2024	40 days	15 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial										
SCV-1	E581.VH+F1	12-Aug-2024	28-Aug-2024	40 days	16 days	✓	29-Aug-2024	40 days	16 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial										
SW-2	E581.VH+F1	12-Aug-2024	28-Aug-2024	40 days	16 days	✓	29-Aug-2024	40 days	17 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial										
SW-3	E581.VH+F1	10-Aug-2024	28-Aug-2024	40 days	18 days	✓	29-Aug-2024	40 days	18 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial										
DupA-SG	E581.VH+F1	09-Aug-2024	28-Aug-2024	40 days	19 days	✓	29-Aug-2024	40 days	19 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial										
KLK-Ref-1-SG	E581.VH+F1	09-Aug-2024	28-Aug-2024	40 days	19 days	✓	29-Aug-2024	40 days	20 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial										
TGT-Ref-1-SG	E581.VH+F1	09-Aug-2024	28-Aug-2024	40 days	19 days	✓	29-Aug-2024	40 days	20 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
SE18-1	E510	17-Aug-2024	27-Aug-2024	28 days	10 days	✓	27-Aug-2024	28 days	10 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
SNW-1	E510	17-Aug-2024	27-Aug-2024	28 days	10 days	✓	27-Aug-2024	28 days	10 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
DupB-SG	E510	13-Aug-2024	27-Aug-2024	28 days	13 days	✓	27-Aug-2024	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
SCV-2	E510	13-Aug-2024	27-Aug-2024	28 days	13 days	✓	27-Aug-2024	28 days	14 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
SCV-1	E510	12-Aug-2024	27-Aug-2024	28 days	14 days	✓	27-Aug-2024	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
SW-2	E510	12-Aug-2024	27-Aug-2024	28 days	15 days	✓	27-Aug-2024	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
SW-3	E510	10-Aug-2024	27-Aug-2024	28 days	16 days	✓	27-Aug-2024	28 days	17 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
SW-1	E510	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
SW-4	E510	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
SE18-1	E440	17-Aug-2024	27-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
SNW-1	E440	17-Aug-2024	27-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
DupB-SG	E440	13-Aug-2024	27-Aug-2024	180 days	13 days	✓	27-Aug-2024	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
SCV-2	E440	13-Aug-2024	27-Aug-2024	180 days	13 days	✓	27-Aug-2024	180 days	14 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
SCV-1	E440	12-Aug-2024	27-Aug-2024	180 days	14 days	✓	27-Aug-2024	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
SW-2	E440	12-Aug-2024	27-Aug-2024	180 days	15 days	✓	27-Aug-2024	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
SW-3	E440	10-Aug-2024	27-Aug-2024	180 days	16 days	✓	27-Aug-2024	180 days	17 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
SW-1	E440	18-Aug-2024	27-Aug-2024	180 days	9 days	✓	27-Aug-2024	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
SW-4	E440	18-Aug-2024	27-Aug-2024	180 days	9 days	✓	27-Aug-2024	180 days	9 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
LDPE bag										
DupB-SG	E351	13-Aug-2024	29-Aug-2024	----	----		29-Aug-2024	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
LDPE bag										
SCV-1	E351	12-Aug-2024	29-Aug-2024	----	----		29-Aug-2024	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
LDPE bag										
SCV-2	E351	13-Aug-2024	29-Aug-2024	----	----		29-Aug-2024	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
LDPE bag										
SE18-1	E351	17-Aug-2024	29-Aug-2024	----	----		29-Aug-2024	0 days	0 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Carbon by Combustion										
LDPE bag SNW-1	E351	17-Aug-2024	29-Aug-2024	----	----		29-Aug-2024	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
LDPE bag SW-1	E351	18-Aug-2024	29-Aug-2024	----	----		29-Aug-2024	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
LDPE bag SW-2	E351	12-Aug-2024	29-Aug-2024	----	----		29-Aug-2024	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
LDPE bag SW-3	E351	10-Aug-2024	29-Aug-2024	----	----		29-Aug-2024	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
LDPE bag SW-4	E351	18-Aug-2024	29-Aug-2024	----	----		29-Aug-2024	0 days	0 days	✓
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
LDPE bag SW-1	E354	18-Aug-2024	----	----	----		29-Aug-2024	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
LDPE bag SW-4	E354	18-Aug-2024	----	----	----		29-Aug-2024	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
LDPE bag SE18-1	E354	17-Aug-2024	----	----	----		29-Aug-2024	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
LDPE bag SNW-1	E354	17-Aug-2024	----	----	----		29-Aug-2024	----	12 days	

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
LDPE bag DupB-SG	E354	13-Aug-2024	----	----	----		29-Aug-2024	----	16 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
LDPE bag SCV-2	E354	13-Aug-2024	----	----	----		29-Aug-2024	----	16 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
LDPE bag SCV-1	E354	12-Aug-2024	----	----	----		29-Aug-2024	----	17 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
LDPE bag SW-2	E354	12-Aug-2024	----	----	----		29-Aug-2024	----	17 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
LDPE bag SW-3	E354	10-Aug-2024	----	----	----		29-Aug-2024	----	19 days	
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag SW-1	E184	18-Aug-2024	28-Aug-2024	365 days	10 days	✓	28-Aug-2024	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag SW-4	E184	18-Aug-2024	28-Aug-2024	365 days	10 days	✓	28-Aug-2024	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag SE18-1	E184	17-Aug-2024	28-Aug-2024	365 days	11 days	✓	28-Aug-2024	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag SNW-1	E184	17-Aug-2024	28-Aug-2024	365 days	11 days	✓	28-Aug-2024	365 days	11 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag DupB-SG	E184	13-Aug-2024	28-Aug-2024	365 days	15 days	✓	28-Aug-2024	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag SCV-2	E184	13-Aug-2024	28-Aug-2024	365 days	15 days	✓	28-Aug-2024	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag SCV-1	E184	12-Aug-2024	28-Aug-2024	365 days	16 days	✓	28-Aug-2024	365 days	16 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag SW-2	E184	12-Aug-2024	28-Aug-2024	365 days	16 days	✓	28-Aug-2024	365 days	16 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag SW-3	E184	10-Aug-2024	28-Aug-2024	365 days	18 days	✓	28-Aug-2024	365 days	18 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag SW-1	E182	18-Aug-2024	28-Aug-2024	365 days	10 days	✓	28-Aug-2024	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag SW-4	E182	18-Aug-2024	28-Aug-2024	365 days	10 days	✓	28-Aug-2024	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag SE18-1	E182	17-Aug-2024	28-Aug-2024	365 days	11 days	✓	28-Aug-2024	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag SNW-1	E182	17-Aug-2024	28-Aug-2024	365 days	11 days	✓	28-Aug-2024	365 days	11 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag DupB-SG	E182	13-Aug-2024	28-Aug-2024	365 days	15 days	✓	28-Aug-2024	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag SCV-2	E182	13-Aug-2024	28-Aug-2024	365 days	15 days	✓	28-Aug-2024	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag SCV-1	E182	12-Aug-2024	28-Aug-2024	365 days	16 days	✓	28-Aug-2024	365 days	16 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag SW-2	E182	12-Aug-2024	28-Aug-2024	365 days	16 days	✓	28-Aug-2024	365 days	16 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag SW-3	E182	10-Aug-2024	28-Aug-2024	365 days	18 days	✓	28-Aug-2024	365 days	18 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag SW-1	E181	18-Aug-2024	28-Aug-2024	365 days	10 days	✓	28-Aug-2024	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag SW-4	E181	18-Aug-2024	28-Aug-2024	365 days	10 days	✓	28-Aug-2024	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag SE18-1	E181	17-Aug-2024	28-Aug-2024	365 days	11 days	✓	28-Aug-2024	365 days	11 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag SNW-1	E181	17-Aug-2024	28-Aug-2024	365 days	11 days	✓	28-Aug-2024	365 days	11 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag DupB-SG	E181	13-Aug-2024	28-Aug-2024	365 days	15 days	✓	28-Aug-2024	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag SCV-2	E181	13-Aug-2024	28-Aug-2024	365 days	15 days	✓	28-Aug-2024	365 days	15 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag SCV-1	E181	12-Aug-2024	28-Aug-2024	365 days	16 days	✓	28-Aug-2024	365 days	16 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag SW-2	E181	12-Aug-2024	28-Aug-2024	365 days	16 days	✓	28-Aug-2024	365 days	16 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag SW-3	E181	10-Aug-2024	28-Aug-2024	365 days	18 days	✓	28-Aug-2024	365 days	18 days	✓
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap DupB-SG	E144	13-Aug-2024	----	----	----		26-Aug-2024	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap SCV-2	E144	13-Aug-2024	----	----	----		26-Aug-2024	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap SCV-1	E144	12-Aug-2024	----	----	----		26-Aug-2024	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap SW-2	E144	12-Aug-2024	----	----	----		26-Aug-2024	----	14 days	

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
SW-3	E144	10-Aug-2024	----	----	----		26-Aug-2024	----	16 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil methanol vial										
DupA-SG	E144	09-Aug-2024	----	----	----		27-Aug-2024	----	18 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil methanol vial										
KLK-Ref-1-SG	E144	09-Aug-2024	----	----	----		27-Aug-2024	----	18 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil methanol vial										
TGT-Ref-1-SG	E144	09-Aug-2024	----	----	----		27-Aug-2024	----	18 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
SW-1	E144	18-Aug-2024	----	----	----		26-Aug-2024	----	8 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
SW-4	E144	18-Aug-2024	----	----	----		26-Aug-2024	----	8 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
SE18-1	E144	17-Aug-2024	----	----	----		26-Aug-2024	----	9 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
SNW-1	E144	17-Aug-2024	----	----	----		26-Aug-2024	----	9 days	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap										
SE18-1	E108	17-Aug-2024	27-Aug-2024	30 days	10 days	✓	27-Aug-2024	30 days	10 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap										
SNW-1	E108	17-Aug-2024	27-Aug-2024	30 days	10 days	✓	27-Aug-2024	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap										
DupB-SG	E108	13-Aug-2024	27-Aug-2024	30 days	13 days	✓	27-Aug-2024	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap										
SCV-2	E108	13-Aug-2024	27-Aug-2024	30 days	13 days	✓	27-Aug-2024	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap										
SCV-1	E108	12-Aug-2024	27-Aug-2024	30 days	14 days	✓	27-Aug-2024	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap										
SW-2	E108	12-Aug-2024	27-Aug-2024	30 days	15 days	✓	27-Aug-2024	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap										
SW-3	E108	10-Aug-2024	27-Aug-2024	30 days	16 days	✓	27-Aug-2024	30 days	17 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap										
SW-1	E108	18-Aug-2024	27-Aug-2024	30 days	9 days	✓	27-Aug-2024	30 days	9 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap										
SW-4	E108	18-Aug-2024	27-Aug-2024	30 days	9 days	✓	27-Aug-2024	30 days	9 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)										
Glass soil jar/Teflon lined cap										
DupB-SG	E641A-L	13-Aug-2024	26-Aug-2024	14 days	13 days	✓	27-Aug-2024	40 days	1 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)										
Glass soil jar/Teflon lined cap										
SCV-2	E641A-L	13-Aug-2024	26-Aug-2024	14 days	13 days	✓	27-Aug-2024	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)										
Glass soil jar/Teflon lined cap										
SCV-1	E641A-L	12-Aug-2024	26-Aug-2024	14 days	14 days	✓	27-Aug-2024	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)										
Glass soil jar/Teflon lined cap										
SW-2	E641A-L	12-Aug-2024	26-Aug-2024	14 days	14 days	✓	27-Aug-2024	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)										
Glass soil jar/Teflon lined cap										
SW-3	E641A-L	10-Aug-2024	26-Aug-2024	14 days	16 days	× EHT	27-Aug-2024	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)										
Glass soil jar/Teflon lined cap										
SW-1	E641A-L	18-Aug-2024	26-Aug-2024	14 days	8 days	✓	27-Aug-2024	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)										
Glass soil jar/Teflon lined cap										
SW-4	E641A-L	18-Aug-2024	26-Aug-2024	14 days	8 days	✓	27-Aug-2024	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)										
Glass soil jar/Teflon lined cap										
SE18-1	E641A-L	17-Aug-2024	26-Aug-2024	14 days	9 days	✓	27-Aug-2024	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)										
Glass soil jar/Teflon lined cap										
SNW-1	E641A-L	17-Aug-2024	26-Aug-2024	14 days	9 days	✓	27-Aug-2024	40 days	1 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass soil methanol vial										
SW-1	E611C	18-Aug-2024	28-Aug-2024	40 days	10 days	✓	29-Aug-2024	40 days	11 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass soil methanol vial SW-4	E611C	18-Aug-2024	28-Aug-2024	40 days	10 days	✓	29-Aug-2024	40 days	11 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass soil methanol vial SE18-1	E611C	17-Aug-2024	28-Aug-2024	40 days	11 days	✓	29-Aug-2024	40 days	12 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass soil methanol vial SNW-1	E611C	17-Aug-2024	28-Aug-2024	40 days	11 days	✓	29-Aug-2024	40 days	12 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass soil methanol vial DupB-SG	E611C	13-Aug-2024	28-Aug-2024	40 days	15 days	✓	29-Aug-2024	40 days	15 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass soil methanol vial SCV-2	E611C	13-Aug-2024	28-Aug-2024	40 days	15 days	✓	29-Aug-2024	40 days	15 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass soil methanol vial SCV-1	E611C	12-Aug-2024	28-Aug-2024	40 days	16 days	✓	29-Aug-2024	40 days	16 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass soil methanol vial SW-2	E611C	12-Aug-2024	28-Aug-2024	40 days	16 days	✓	29-Aug-2024	40 days	17 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass soil methanol vial SW-3	E611C	10-Aug-2024	28-Aug-2024	40 days	18 days	✓	29-Aug-2024	40 days	18 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass soil methanol vial DupA-SG	E611C	09-Aug-2024	28-Aug-2024	40 days	19 days	✓	29-Aug-2024	40 days	19 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / **Container / Client Sample ID(s)**	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass soil methanol vial										
KLK-Ref-1-SG	E611C	09-Aug-2024	28-Aug-2024	40 days	19 days	✓	29-Aug-2024	40 days	20 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass soil methanol vial										
TGT-Ref-1-SG	E611C	09-Aug-2024	28-Aug-2024	40 days	19 days	✓	29-Aug-2024	40 days	20 days	✓

Legend & Qualifier Definitions

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Soil/Solid**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
BC PHCs - EPH by GC-FID	E601A	1617250	1	11	9.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	1617251	1	9	11.1	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	1617252	1	12	8.3	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	1617253	1	12	8.3	5.0	✓
Moisture Content by Gravimetry	E144	1617255	1	14	7.1	5.0	✓
PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)	E641A-L	1617249	1	11	9.0	5.0	✓
Particle Size Analysis - Pipette Method	E184	1621937	1	9	11.1	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	1621939	1	9	11.1	5.0	✓
pH by Meter (1:2 Soil:Water Extraction)	E108	1617254	1	12	8.3	5.0	✓
Total Carbon by Combustion	E351	1623604	2	40	5.0	5.0	✓
Total Inorganic Carbon by Acetic Acid pH Standard Curve	E354	1623184	1	9	11.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1620885	1	15	6.6	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1620886	1	15	6.6	5.0	✓
Laboratory Control Samples (LCS)							
BC PHCs - EPH by GC-FID	E601A	1617250	1	11	9.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	1617251	1	9	11.1	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	1617252	2	12	16.6	10.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	1617253	2	12	16.6	10.0	✓
Moisture Content by Gravimetry	E144	1617255	1	14	7.1	5.0	✓
PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)	E641A-L	1617249	1	11	9.0	5.0	✓
Particle Size Analysis - Pipette Method	E184	1621937	1	9	11.1	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	1621939	1	9	11.1	5.0	✓
Particle Size Analysis - Sieve >2mm	E181	1621938	1	9	11.1	5.0	✓
pH by Meter (1:2 Soil:Water Extraction)	E108	1617254	1	12	8.3	5.0	✓
Total Carbon by Combustion	E351	1623604	4	40	10.0	10.0	✓
Total Inorganic Carbon by Acetic Acid pH Standard Curve	E354	1623184	2	9	22.2	10.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1620885	1	15	6.6	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1620886	1	15	6.6	5.0	✓
Method Blanks (MB)							
BC PHCs - EPH by GC-FID	E601A	1617250	1	11	9.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	1617251	1	9	11.1	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	1617252	1	12	8.3	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	1617253	1	12	8.3	5.0	✓
Moisture Content by Gravimetry	E144	1617255	1	14	7.1	5.0	✓
PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)	E641A-L	1617249	1	11	9.0	5.0	✓

Matrix: **Soil/Solid**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
Total Carbon by Combustion	E351	1623604	2	40	5.0	5.0	✓
Total Inorganic Carbon by Acetic Acid pH Standard Curve	E354	1623184	1	9	11.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1620885	1	15	6.6	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1620886	1	15	6.6	5.0	✓
Matrix Spikes (MS)							
BC PHCs - EPH by GC-FID	E601A	1617250	1	11	9.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	1617251	1	9	11.1	5.0	✓
PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)	E641A-L	1617249	1	11	9.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1620885	1	15	6.6	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1620886	1	15	6.6	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter (1:2 Soil:Water Extraction)	E108 ALS Environmental - Vancouver	Soil/Solid	BC Lab Manual	pH is determined by potentiometric measurement with a pH electrode at ambient laboratory temperature (normally 20 ± 5°C), and is carried out in accordance with procedures described in the BC Lab Manual (prescriptive method). The procedure involves mixing the dried (at <60 ºC) and sieved (10mesh/2mm) sample with ultra pure water at a 1:2 ratio of sediment to water. The pH is then measured by a standard pH probe.
Moisture Content by Gravimetry	E144 ALS Environmental - Vancouver	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Particle Size Analysis - Sieve >2mm	E181 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material retained on the sieve is then further sieved through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Sieve <2mm	E182 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material passed through the sieve is then further disaggregated using calgon solution and passed through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Pipette Method	E184 ALS Environmental - Saskatoon	Soil/Solid	SSIR-51 Method 3.2.1	Soil material is separated from coarse material (>2mm). A specimen is then disaggregated through mixing with Calgon solution. The material is then suspended in solution wherein regular aliquots are taken using a mechanical pipette at specific time intervals. The aliquots are dried and material in suspension determined gravimetrically. The principles of Stokes' Law are applied to determine the amount of material remaining in solution as well as the maximum particle size remaining in solution at the specified time.
Total Carbon by Combustion	E351 ALS Environmental - Saskatoon	Soil/Solid	CSSS (2008) 21.2 (mod)	Total Carbon is determined by the high temperature combustion method with measurement by an infrared detector.
Total Inorganic Carbon by Acetic Acid pH Standard Curve	E354 ALS Environmental - Saskatoon	Soil/Solid	CSSS (2008) 20.2	Total Inorganic Carbon is determined by acetic acid pH standard curve, where a known quantity of acetic acid is consumed by reaction with carbonates in the soil. The pH of the resulting solution is measured and compared against a standard curve relating pH to weight of carbonate.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Metals in Soil/Solid by CRC ICPMS	E440 ALS Environmental - Vancouver	Soil/Solid	EPA 6020B (mod)	This method is intended to liberate metals that may be environmentally available. Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Silicate minerals are not solubilized. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. This method does not adequately recover elemental sulfur, and is unsuitable for assessment of elemental sulfur standards or guidelines. Analysis is by Collision/Reaction Cell ICPMS.
Mercury in Soil/Solid by CVAAS	E510 ALS Environmental - Vancouver	Soil/Solid	EPA 200.2/1631 Appendix (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl, followed by CVAAS analysis.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Soil/Solid	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Test results are expressed on a dry weight basis. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
CCME PHCs - F2-F4 by GC-FID	E601.SG ALS Environmental - Vancouver	Soil/Solid	CCME PHC in Soil - Tier 1	Sample extracts are subjected to in-situ silica gel treatment prior to analysis by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Test results are expressed on a dry weight basis. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Soil/Solid	BC MOE Lab Manual (EPH in Solids by GC/FID) (mod)	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
VOCs (BC List) by Headspace GC-MS	E611C ALS Environmental - Vancouver	Soil/Solid	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Total Xylenes is the sum of m,p-Xylene & o-Xylene. Total BTEX is the sum of Benzene, Toluene, Ethylbenzene, & Total Xylenes. Total BTEX+Styrene is the sum of Total BTEX & Styrene. Total Trihalomethanes [THMs] is the sum of Bromodichloromethane, Bromoform, Chloroform, & Dibromochloromethane.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)	E641A-L ALS Environmental - Vancouver	Soil/Solid	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are extracted with hexane/acetone and analyzed by GC-MS. If reported, IACR (index of additive cancer risk, unitless) and B(a)P toxic potency equivalent (in soil concentration units) are calculated as per CCME PAH Soil Quality Guidelines fact sheet (2010) or ABT1.
Particle Size Analysis (Pipette) - MMER Classification	EC184E ALS Environmental - Saskatoon	Soil/Solid	Metal Mining Technical Guidance for Environmental Effects Monitoring (2012)	The particle size determination is performed by various methods to generate a Grain Size curve. The data from the curve is then used to produce particle size ranges based on the Metal Mining Effluent Regulations (MMER) classification system for Environmental Effects Monitoring.
Total Organic Carbon (Calculated) in soil	EC356 ALS Environmental - Saskatoon	Soil/Solid	CSSS (2008) 21.2	Total Organic Carbon (TOC) is calculated by the difference between total carbon (TC) and total inorganic carbon (TIC).
F1-BTEX	EC580 ALS Environmental - Vancouver	Soil/Solid	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Soil/Solid	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHs = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Vancouver	Soil/Solid	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(b+j)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Pyrene.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil:Water for pH/EC	EP108 ALS Environmental - Vancouver	Soil/Solid	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL	The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water.
Digestion for Metals and Mercury	EP440 ALS Environmental - Vancouver	Soil/Solid	EPA 200.2 (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl. This method is intended to liberate metals that may be environmentally available.
VOCs Methanol Extraction for Headspace Analysis	EP581 ALS Environmental - Vancouver	Soil/Solid	EPA 5035A (mod)	VOCs in samples are extracted with methanol. Extracts are then prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
PHCs and PAHs Hexane-Acetone Tumbler Extraction	EP601 ALS Environmental - Vancouver	Soil/Solid	CCME PHC in Soil - Tier 1 (mod)	Samples are subsampled and Petroleum Hydrocarbons (PHC) and PAHs are extracted with 1:1 hexane:acetone using a rotary extractor.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dry and Grind in Soil/Solid <60°C	EPP442 ALS Environmental - Saskatoon	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	After removal of any coarse fragments and reservation of wet subsamples a portion of homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is then particle size reduced with an automated crusher or mortar and pestle, typically to <2 mm. Further size reduction may be needed for particular tests.

QUALITY CONTROL REPORT

Work Order	: **VA24C1763**	Page	: 1 of 19
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 22-Aug-2024 08:35
PO	: ----	Date Analysis Commenced	: 26-Aug-2024
C-O-C number	: ----	Issue Date	: 30-Aug-2024 16:23
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 12		
No. of samples analysed	: 12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Reference Material (RM) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
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Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Paul Cushing	Team Leader - Organics	Vancouver Organics, Burnaby, British Columbia

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1617254)											
VA24C1754-001	Anonymous	pH (1:2 soil:water)	----	E108	0.10	pH units	7.55	7.57	0.3%	5%	----
Physical Tests (QC Lot: 1617255)											
VA24C1754-001	Anonymous	Moisture	----	E144	0.25	%	34.4	30.8	11.1%	20%	----
Percent Passing (QC Lot: 1621937)											
VA24C1763-001	SW-3	Passing (0.002mm)	----	E184	1.0	%	1.6	1.7	0.1	Diff <2x LOR	----
		Passing (0.004mm)	----	E184	1.0	%	1.9	2.0	0.07	Diff <2x LOR	----
		Passing (0.005mm)	----	E184	1.0	%	2.0	2.0	0.06	Diff <2x LOR	----
		Passing (0.020mm)	----	E184	1.0	%	3.5	3.5	0.005	Diff <2x LOR	----
		Passing (0.0312mm)	----	E184	1.0	%	4.4	4.5	0.1	Diff <2x LOR	----
Percent Passing (QC Lot: 1621939)											
VA24C1763-001	SW-3	Passing (0.05mm)	----	E182	1.0	%	5.9	6.2	0.3	Diff <2x LOR	----
		Passing (0.063mm)	----	E182	1.0	%	7.4	8.1	0.7	Diff <2x LOR	----
		Passing (0.075mm)	----	E182	1.0	%	8.8	9.9	1.1	Diff <2x LOR	----
		Passing (0.125mm)	----	E182	1.0	%	14.6	17.2	16.1%	15%	PSDL
		Passing (0.149mm)	----	E182	1.0	%	27.1	29.6	8.86%	15%	----
		Passing (0.250mm)	----	E182	1.0	%	79.8	82.1	2.84%	15%	----
		Passing (0.420mm)	----	E182	1.0	%	92.9	93.7	0.903%	15%	----
		Passing (0.50mm)	----	E182	1.0	%	99.0	99.2	0.160%	15%	----
		Passing (0.841mm)	----	E182	1.0	%	99.4	99.5	0.0950%	15%	----
		Passing (1.0mm)	----	E182	1.0	%	99.6	99.7	0.0649%	15%	----
Organic / Inorganic Carbon (QC Lot: 1623184)											
VA24C1763-001	SW-3	Carbon, inorganic [IC]	----	E354	0.050	%	0.868	0.884	1.73%	20%	----
Organic / Inorganic Carbon (QC Lot: 1623604)											
VA24C1223-016	Anonymous	Carbon, total [TC]	----	E351	0.050	%	38.9	39.0	0.363%	20%	----
Organic / Inorganic Carbon (QC Lot: 1623734)											
CG2412030-025	Anonymous	Carbon, total [TC]	----	E351	0.050	%	6.82	7.58	10.6%	20%	----
Metals (QC Lot: 1617252)											
VA24C1754-001	Anonymous	Mercury	7439-97-6	E510	0.0500	mg/kg	0.120	0.124	0.0038	Diff <2x LOR	----
Metals (QC Lot: 1617253)											
VA24C1754-001	Anonymous	Aluminum	7429-90-5	E440	50	mg/kg	21900	19200	13.5%	40%	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Metals (QC Lot: 1617253) - continued											
VA24C1754-001	Anonymous	Antimony	7440-36-0	E440	0.10	mg/kg	0.59	0.68	0.09	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	6.06	5.71	5.98%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	879	740	17.2%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.60	0.56	0.04	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	0.64	0.68	0.03	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	121	110	10.0%	30%	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	0.351	0.382	8.42%	30%	----
		Calcium	7440-70-2	E440	50	mg/kg	38000	37000	2.69%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	26.7	26.6	0.310%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	9.72	9.33	4.08%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	109	103	5.11%	30%	----
		Iron	7439-89-6	E440	50	mg/kg	20100	18900	6.17%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	56.5	61.5	8.45%	40%	----
		Lithium	7439-93-2	E440	2.0	mg/kg	17.6	16.0	9.68%	30%	----
		Magnesium	7439-95-4	E440	20	mg/kg	6930	6030	13.9%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	311	294	5.58%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	1.83	1.69	7.56%	40%	----
		Nickel	7440-02-0	E440	0.50	mg/kg	39.3	37.5	4.75%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	2100	1860	12.2%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	980	920	5.45%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	0.28	0.30	0.02	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	0.18	0.16	0.02	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	1090	955	13.2%	40%	----
		Strontium	7440-24-6	E440	0.50	mg/kg	1030	886	15.2%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	4100	4800	600	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	2.1	2.3	0.2	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	1060	1040	2.51%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	0.988	0.913	7.82%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	71.2	67.7	5.08%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	149	153	2.32%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	7.1	6.5	9.68%	30%	----
Volatile Organic Compounds (QC Lot: 1620886)											

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Volatile Organic Compounds (QC Lot: 1620886) - continued											
VA24C1043-004	Anonymous	Benzene	71-43-2	E611C	0.0058	mg/kg	<0.0058	<0.0058	0	Diff <2x LOR	----
		Bromodichloromethane	75-27-4	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Carbon tetrachloride	56-23-5	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Chlorobenzene	108-90-7	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Chloroethane	75-00-3	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Chloromethane	74-87-3	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichlorobenzene, 1,3-	541-73-1	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloroethane, 1,1-	75-34-3	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloroethylene, cis-1,2-	156-59-2	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloroethylene, trans-1,2-	156-60-5	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611C	0.045	mg/kg	<0.045	<0.045	0	Diff <2x LOR	----
		Dichloropropane, 1,2-	78-87-5	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611C	0.015	mg/kg	<0.015	<0.015	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.040	mg/kg	<0.040	<0.040	0	Diff <2x LOR	----
		Styrene	100-42-5	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Toluene	108-88-3	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Trichloroethane, 1,1,1-	71-55-6	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Trichloroethane, 1,1,2-	79-00-5	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611C	0.015	mg/kg	<0.015	<0.015	0	Diff <2x LOR	----
		Trichlorofluoromethane	75-69-4	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Vinyl chloride	75-01-4	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Volatile Organic Compounds (QC Lot: 1620886) - continued											
VA24C1043-004	Anonymous	Xylene, o-	95-47-6	E611C	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1617250)											
VA24C1763-001	SW-3	EPH (C10-C19)	----	E601A	200	mg/kg	<200	<200	0	Diff <2x LOR	----
		EPH (C19-C32)	----	E601A	200	mg/kg	<200	<200	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1617251)											
VA24C1763-001	SW-3	F2 (C10-C16)	----	E601.SG	25	mg/kg	<25	<25	0	Diff <2x LOR	----
		F3 (C16-C34)	----	E601.SG	50	mg/kg	<50	<50	0	Diff <2x LOR	----
		F4 (C34-C50)	----	E601.SG	50	mg/kg	<50	<50	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1620885)											
VA24C1043-004	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----
		VHs (C6-C10)	----	E581.VH+F1	10	mg/kg	<10	<10	0	Diff <2x LOR	----
Polycyclic Aromatic Hydrocarbons (QC Lot: 1617249)											
VA24C1763-001	SW-3	Acenaphthene	83-32-9	E641A-L	0.0050	mg/kg	<0.0050	<0.0050	0	Diff <2x LOR	----
		Acenaphthylene	208-96-8	E641A-L	0.0050	mg/kg	<0.0050	<0.0050	0	Diff <2x LOR	----
		Acridine	260-94-6	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Anthracene	120-12-7	E641A-L	0.0040	mg/kg	<0.0040	<0.0040	0	Diff <2x LOR	----
		Benz(a)anthracene	56-55-3	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Benzo(a)pyrene	50-32-8	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Benzo(b+j)fluoranthene	n/a	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Benzo(g,h,i)perylene	191-24-2	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Benzo(k)fluoranthene	207-08-9	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Chrysene	218-01-9	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Dibenz(a,h)anthracene	53-70-3	E641A-L	0.0050	mg/kg	<0.0050	<0.0050	0	Diff <2x LOR	----
		Fluoranthene	206-44-0	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Fluorene	86-73-7	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Indeno(1,2,3-c,d)pyrene	193-39-5	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Methylnaphthalene, 1-	90-12-0	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Methylnaphthalene, 2-	91-57-6	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Naphthalene	91-20-3	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Phenanthrene	85-01-8	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Pyrene	129-00-0	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Quinoline	91-22-5	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----

Qualifiers

Qualifier	Description
PSDL	Particle size duplicate results exceed ALS RPD DQO, but are within 5% absolute difference and are considered reliable.

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1617255)						
Moisture	----	E144	0.25	%	<0.25	----
Organic / Inorganic Carbon (QCLot: 1623184)						
Carbon, inorganic [IC]	----	E354	0.05	%	<0.050	----
Organic / Inorganic Carbon (QCLot: 1623604)						
Carbon, total [TC]	----	E351	0.05	%	<0.050	----
Organic / Inorganic Carbon (QCLot: 1623734)						
Carbon, total [TC]	----	E351	0.05	%	<0.050	----
Metals (QCLot: 1617252)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 1617253)						
Aluminum	7429-90-5	E440	50	mg/kg	<50	----
Antimony	7440-36-0	E440	0.1	mg/kg	<0.10	----
Arsenic	7440-38-2	E440	0.1	mg/kg	<0.10	----
Barium	7440-39-3	E440	0.5	mg/kg	<0.50	----
Beryllium	7440-41-7	E440	0.1	mg/kg	<0.10	----
Bismuth	7440-69-9	E440	0.2	mg/kg	<0.20	----
Boron	7440-42-8	E440	5	mg/kg	<5.0	----
Cadmium	7440-43-9	E440	0.02	mg/kg	<0.020	----
Calcium	7440-70-2	E440	50	mg/kg	<50	----
Chromium	7440-47-3	E440	0.5	mg/kg	<0.50	----
Cobalt	7440-48-4	E440	0.1	mg/kg	<0.10	----
Copper	7440-50-8	E440	0.5	mg/kg	<0.50	----
Iron	7439-89-6	E440	50	mg/kg	<50	----
Lead	7439-92-1	E440	0.5	mg/kg	<0.50	----
Lithium	7439-93-2	E440	2	mg/kg	<2.0	----
Magnesium	7439-95-4	E440	20	mg/kg	<20	----
Manganese	7439-96-5	E440	1	mg/kg	<1.0	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	<0.10	----
Nickel	7440-02-0	E440	0.5	mg/kg	<0.50	----
Phosphorus	7723-14-0	E440	50	mg/kg	<50	----
Potassium	7440-09-7	E440	100	mg/kg	<100	----
Selenium	7782-49-2	E440	0.2	mg/kg	<0.20	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 1617253) - continued						
Silver	7440-22-4	E440	0.1	mg/kg	<0.10	----
Sodium	7440-23-5	E440	50	mg/kg	<50	----
Strontium	7440-24-6	E440	0.5	mg/kg	<0.50	----
Sulfur	7704-34-9	E440	1000	mg/kg	<1000	----
Thallium	7440-28-0	E440	0.05	mg/kg	<0.050	----
Tin	7440-31-5	E440	2	mg/kg	<2.0	----
Titanium	7440-32-6	E440	1	mg/kg	<1.0	----
Tungsten	7440-33-7	E440	0.5	mg/kg	<0.50	----
Uranium	7440-61-1	E440	0.05	mg/kg	<0.050	----
Vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	----
Zinc	7440-66-6	E440	2	mg/kg	<2.0	----
Zirconium	7440-67-7	E440	1	mg/kg	<1.0	----
Volatile Organic Compounds (QCLot: 1620886)						
Benzene	71-43-2	E611C	0.005	mg/kg	<0.0050	----
Bromodichloromethane	75-27-4	E611C	0.05	mg/kg	<0.050	----
Bromoform	75-25-2	E611C	0.05	mg/kg	<0.050	----
Carbon tetrachloride	56-23-5	E611C	0.05	mg/kg	<0.050	----
Chlorobenzene	108-90-7	E611C	0.05	mg/kg	<0.050	----
Chloroethane	75-00-3	E611C	0.05	mg/kg	<0.050	----
Chloroform	67-66-3	E611C	0.05	mg/kg	<0.050	----
Chloromethane	74-87-3	E611C	0.05	mg/kg	<0.050	----
Dibromochloromethane	124-48-1	E611C	0.05	mg/kg	<0.050	----
Dichlorobenzene, 1,2-	95-50-1	E611C	0.05	mg/kg	<0.050	----
Dichlorobenzene, 1,3-	541-73-1	E611C	0.05	mg/kg	<0.050	----
Dichlorobenzene, 1,4-	106-46-7	E611C	0.05	mg/kg	<0.050	----
Dichloroethane, 1,1-	75-34-3	E611C	0.05	mg/kg	<0.050	----
Dichloroethane, 1,2-	107-06-2	E611C	0.05	mg/kg	<0.050	----
Dichloroethylene, 1,1-	75-35-4	E611C	0.05	mg/kg	<0.050	----
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.05	mg/kg	<0.050	----
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.05	mg/kg	<0.050	----
Dichloromethane	75-09-2	E611C	0.045	mg/kg	<0.045	----
Dichloropropane, 1,2-	78-87-5	E611C	0.05	mg/kg	<0.050	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.05	mg/kg	<0.050	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.05	mg/kg	<0.050	----
Ethylbenzene	100-41-4	E611C	0.015	mg/kg	<0.015	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1620886) - continued						
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.04	mg/kg	<0.040	----
Styrene	100-42-5	E611C	0.05	mg/kg	<0.050	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.05	mg/kg	<0.050	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.05	mg/kg	<0.050	----
Tetrachloroethylene	127-18-4	E611C	0.05	mg/kg	<0.050	----
Toluene	108-88-3	E611C	0.05	mg/kg	<0.050	----
Trichloroethane, 1,1,1-	71-55-6	E611C	0.05	mg/kg	<0.050	----
Trichloroethane, 1,1,2-	79-00-5	E611C	0.05	mg/kg	<0.050	----
Trichloroethylene	79-01-6	E611C	0.01	mg/kg	<0.010	----
Trichlorofluoromethane	75-69-4	E611C	0.05	mg/kg	<0.050	----
Vinyl chloride	75-01-4	E611C	0.05	mg/kg	<0.050	----
Xylene, m+p-	179601-23-1	E611C	0.05	mg/kg	<0.050	----
Xylene, o-	95-47-6	E611C	0.05	mg/kg	<0.050	----
Hydrocarbons (QCLot: 1617250)						
EPH (C10-C19)	----	E601A	200	mg/kg	<200	----
EPH (C19-C32)	----	E601A	200	mg/kg	<200	----
Hydrocarbons (QCLot: 1617251)						
F2 (C10-C16)	----	E601.SG	25	mg/kg	<25	----
F3 (C16-C34)	----	E601.SG	50	mg/kg	<50	----
F4 (C34-C50)	----	E601.SG	50	mg/kg	<50	----
Hydrocarbons (QCLot: 1620885)						
F1 (C6-C10)	----	E581.VH+F1	5	mg/kg	<5.0	----
VHs (C6-C10)	----	E581.VH+F1	10	mg/kg	<10	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1617249)						
Acenaphthene	83-32-9	E641A-L	0.005	mg/kg	<0.0050	----
Acenaphthylene	208-96-8	E641A-L	0.005	mg/kg	<0.0050	----
Acridine	260-94-6	E641A-L	0.01	mg/kg	<0.010	----
Anthracene	120-12-7	E641A-L	0.004	mg/kg	<0.0040	----
Benz(a)anthracene	56-55-3	E641A-L	0.01	mg/kg	<0.010	----
Benzo(a)pyrene	50-32-8	E641A-L	0.01	mg/kg	<0.010	----
Benzo(b+j)fluoranthene	n/a	E641A-L	0.01	mg/kg	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A-L	0.01	mg/kg	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A-L	0.01	mg/kg	<0.010	----
Chrysene	218-01-9	E641A-L	0.01	mg/kg	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A-L	0.005	mg/kg	<0.0050	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1617249) - continued						
Fluoranthene	206-44-0	E641A-L	0.01	mg/kg	<0.010	----
Fluorene	86-73-7	E641A-L	0.01	mg/kg	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A-L	0.01	mg/kg	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A-L	0.01	mg/kg	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A-L	0.01	mg/kg	<0.010	----
Naphthalene	91-20-3	E641A-L	0.01	mg/kg	<0.010	----
Phenanthrene	85-01-8	E641A-L	0.01	mg/kg	<0.010	----
Pyrene	129-00-0	E641A-L	0.01	mg/kg	<0.010	----
Quinoline	91-22-5	E641A-L	0.01	mg/kg	<0.010	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1617254)									
pH (1:2 soil:water)	----	E108	----	pH units	6 pH units	99.8	95.0	105	----
Physical Tests (QCLot: 1617255)									
Moisture	----	E144	0.25	%	50 %	99.5	90.0	110	----
Organic / Inorganic Carbon (QCLot: 1623184)									
Carbon, inorganic [IC]	----	E354	0.05	%	0.5 %	98.4	90.0	110	----
Organic / Inorganic Carbon (QCLot: 1623604)									
Carbon, total [TC]	----	E351	0.05	%	48 %	101	90.0	110	----
Organic / Inorganic Carbon (QCLot: 1623734)									
Carbon, total [TC]	----	E351	0.05	%	48 %	101	90.0	110	----
Metals (QCLot: 1617252)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	87.2	80.0	120	----
Metals (QCLot: 1617253)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	105	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	97.4	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	104	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	104	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	103	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	99.7	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	98.1	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	103	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	101	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	102	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	101	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	99.0	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	104	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	102	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	109	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	101	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	103	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	98.0	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	99.8	80.0	120	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 1617253) - continued									
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	109	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	104	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	101	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	93.7	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	105	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	104	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	96.0	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	98.5	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	100	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	97.5	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	97.4	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	106	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	104	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	101	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	98.2	80.0	120	----
Volatile Organic Compounds (QCLot: 1620886)									
Benzene	71-43-2	E611C	0.005	mg/kg	2.5 mg/kg	114	70.0	130	----
Bromodichloromethane	75-27-4	E611C	0.05	mg/kg	2.5 mg/kg	108	70.0	130	----
Bromoform	75-25-2	E611C	0.05	mg/kg	2.5 mg/kg	105	70.0	130	----
Carbon tetrachloride	56-23-5	E611C	0.05	mg/kg	2.5 mg/kg	119	70.0	130	----
Chlorobenzene	108-90-7	E611C	0.05	mg/kg	2.5 mg/kg	116	70.0	130	----
Chloroethane	75-00-3	E611C	0.05	mg/kg	2.5 mg/kg	134	60.0	140	----
Chloroform	67-66-3	E611C	0.05	mg/kg	2.5 mg/kg	114	70.0	130	----
Chloromethane	74-87-3	E611C	0.05	mg/kg	2.5 mg/kg	109	60.0	140	----
Dibromochloromethane	124-48-1	E611C	0.05	mg/kg	2.5 mg/kg	108	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611C	0.05	mg/kg	2.5 mg/kg	114	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611C	0.05	mg/kg	2.5 mg/kg	120	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611C	0.05	mg/kg	2.5 mg/kg	118	70.0	130	----
Dichloroethane, 1,1-	75-34-3	E611C	0.05	mg/kg	2.5 mg/kg	130	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611C	0.05	mg/kg	2.5 mg/kg	109	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611C	0.05	mg/kg	2.5 mg/kg	111	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.05	mg/kg	2.5 mg/kg	110	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.05	mg/kg	2.5 mg/kg	122	70.0	130	----
Dichloromethane	75-09-2	E611C	0.045	mg/kg	2.5 mg/kg	115	60.0	140	----
Dichloropropane, 1,2-	78-87-5	E611C	0.05	mg/kg	2.5 mg/kg	112	70.0	130	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1620886) - continued									
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.05	mg/kg	2.5 mg/kg	109	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.05	mg/kg	2.5 mg/kg	109	70.0	130	----
Ethylbenzene	100-41-4	E611C	0.015	mg/kg	2.5 mg/kg	110	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.04	mg/kg	2.5 mg/kg	110	70.0	130	----
Styrene	100-42-5	E611C	0.05	mg/kg	2.5 mg/kg	107	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.05	mg/kg	2.5 mg/kg	110	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.05	mg/kg	2.5 mg/kg	99.1	70.0	130	----
Tetrachloroethylene	127-18-4	E611C	0.05	mg/kg	2.5 mg/kg	122	70.0	130	----
Toluene	108-88-3	E611C	0.05	mg/kg	2.5 mg/kg	114	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611C	0.05	mg/kg	2.5 mg/kg	117	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611C	0.05	mg/kg	2.5 mg/kg	104	70.0	130	----
Trichloroethylene	79-01-6	E611C	0.01	mg/kg	2.5 mg/kg	118	70.0	130	----
Trichlorofluoromethane	75-69-4	E611C	0.05	mg/kg	2.5 mg/kg	91.2	60.0	140	----
Vinyl chloride	75-01-4	E611C	0.05	mg/kg	2.5 mg/kg	119	60.0	140	----
Xylene, m+p-	179601-23-1	E611C	0.05	mg/kg	5 mg/kg	116	70.0	130	----
Xylene, o-	95-47-6	E611C	0.05	mg/kg	2.5 mg/kg	113	70.0	130	----
Hydrocarbons (QCLot: 1617250)									
EPH (C10-C19)	----	E601A	200	mg/kg	1130 mg/kg	92.1	70.0	130	----
EPH (C19-C32)	----	E601A	200	mg/kg	576 mg/kg	96.0	70.0	130	----
Hydrocarbons (QCLot: 1617251)									
F2 (C10-C16)	----	E601.SG	25	mg/kg	619 mg/kg	106	70.0	130	----
F3 (C16-C34)	----	E601.SG	50	mg/kg	1240 mg/kg	98.8	70.0	130	----
F4 (C34-C50)	----	E601.SG	50	mg/kg	994 mg/kg	96.8	70.0	130	----
Hydrocarbons (QCLot: 1620885)									
F1 (C6-C10)	----	E581.VH+F1	5	mg/kg	60.2 mg/kg	105	70.0	130	----
VHs (C6-C10)	----	E581.VH+F1	10	mg/kg	59.1 mg/kg	97.8	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1617249)									
Acenaphthene	83-32-9	E641A-L	0.005	mg/kg	0.5 mg/kg	96.4	60.0	130	----
Acenaphthylene	208-96-8	E641A-L	0.005	mg/kg	0.5 mg/kg	96.2	60.0	130	----
Acridine	260-94-6	E641A-L	0.01	mg/kg	0.5 mg/kg	81.8	60.0	130	----
Anthracene	120-12-7	E641A-L	0.004	mg/kg	0.5 mg/kg	94.7	60.0	130	----
Benz(a)anthracene	56-55-3	E641A-L	0.01	mg/kg	0.5 mg/kg	94.7	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A-L	0.01	mg/kg	0.5 mg/kg	90.4	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A-L	0.01	mg/kg	0.5 mg/kg	87.2	60.0	130	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1617249) - continued									
Benzo(g,h,i)perylene	191-24-2	E641A-L	0.01	mg/kg	0.5 mg/kg	91.4	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A-L	0.01	mg/kg	0.5 mg/kg	83.1	60.0	130	----
Chrysene	218-01-9	E641A-L	0.01	mg/kg	0.5 mg/kg	102	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A-L	0.005	mg/kg	0.5 mg/kg	88.7	60.0	130	----
Fluoranthene	206-44-0	E641A-L	0.01	mg/kg	0.5 mg/kg	96.8	60.0	130	----
Fluorene	86-73-7	E641A-L	0.01	mg/kg	0.5 mg/kg	96.6	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A-L	0.01	mg/kg	0.5 mg/kg	90.6	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A-L	0.01	mg/kg	0.5 mg/kg	92.1	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A-L	0.01	mg/kg	0.5 mg/kg	102	60.0	130	----
Naphthalene	91-20-3	E641A-L	0.01	mg/kg	0.5 mg/kg	93.0	50.0	130	----
Phenanthrene	85-01-8	E641A-L	0.01	mg/kg	0.5 mg/kg	94.2	60.0	130	----
Pyrene	129-00-0	E641A-L	0.01	mg/kg	0.5 mg/kg	98.7	60.0	130	----
Quinoline	91-22-5	E641A-L	0.01	mg/kg	0.5 mg/kg	74.9	60.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1620886)										
VA24C1043-004	Anonymous	Benzene	71-43-2	E611C	2.79 mg/kg	2.93 mg/kg	95.1	60.0	140	----
		Bromodichloromethane	75-27-4	E611C	2.70 mg/kg	2.93 mg/kg	92.1	60.0	140	----
		Bromoform	75-25-2	E611C	2.92 mg/kg	2.93 mg/kg	99.4	60.0	140	----
		Carbon tetrachloride	56-23-5	E611C	2.82 mg/kg	2.93 mg/kg	96.3	60.0	140	----
		Chlorobenzene	108-90-7	E611C	2.93 mg/kg	2.93 mg/kg	100	60.0	140	----
		Chloroethane	75-00-3	E611C	3.02 mg/kg	2.93 mg/kg	103	60.0	140	----
		Chloroform	67-66-3	E611C	2.77 mg/kg	2.93 mg/kg	94.6	60.0	140	----
		Chloromethane	74-87-3	E611C	2.68 mg/kg	2.93 mg/kg	91.6	60.0	140	----
		Dibromochloromethane	124-48-1	E611C	2.83 mg/kg	2.93 mg/kg	96.7	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611C	2.91 mg/kg	2.93 mg/kg	99.2	60.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611C	3.03 mg/kg	2.93 mg/kg	103	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611C	3.10 mg/kg	2.93 mg/kg	106	60.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611C	2.79 mg/kg	2.93 mg/kg	95.1	60.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611C	2.72 mg/kg	2.93 mg/kg	92.8	60.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611C	2.60 mg/kg	2.93 mg/kg	88.8	60.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611C	2.65 mg/kg	2.93 mg/kg	90.5	60.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611C	2.77 mg/kg	2.93 mg/kg	94.4	60.0	140	----
		Dichloromethane	75-09-2	E611C	2.80 mg/kg	2.93 mg/kg	95.4	60.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611C	2.80 mg/kg	2.93 mg/kg	95.4	60.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611C	2.80 mg/kg	2.93 mg/kg	95.4	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611C	2.88 mg/kg	2.93 mg/kg	98.2	60.0	140	----
		Ethylbenzene	100-41-4	E611C	2.73 mg/kg	2.93 mg/kg	93.0	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	2.96 mg/kg	2.93 mg/kg	101	60.0	140	----
		Styrene	100-42-5	E611C	2.85 mg/kg	2.93 mg/kg	97.1	60.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	2.82 mg/kg	2.93 mg/kg	96.3	60.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	2.59 mg/kg	2.93 mg/kg	88.4	60.0	140	----
		Tetrachloroethylene	127-18-4	E611C	2.83 mg/kg	2.93 mg/kg	96.7	60.0	140	----
		Toluene	108-88-3	E611C	2.83 mg/kg	2.93 mg/kg	96.6	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611C	2.88 mg/kg	2.93 mg/kg	98.2	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611C	2.70 mg/kg	2.93 mg/kg	92.1	60.0	140	----
		Trichloroethylene	79-01-6	E611C	2.79 mg/kg	2.93 mg/kg	95.2	60.0	140	----
		Trichlorofluoromethane	75-69-4	E611C	3.16 mg/kg	2.93 mg/kg	108	60.0	140	----
		Vinyl chloride	75-01-4	E611C	2.68 mg/kg	2.93 mg/kg	91.2	60.0	140	----
		Xylene, m+p-	179601-23-1	E611C	5.94 mg/kg	5.86 mg/kg	101	60.0	140	----
		Xylene, o-	95-47-6	E611C	2.82 mg/kg	2.93 mg/kg	96.0	60.0	140	----
Hydrocarbons (QCLot: 1617250)										
VA24C1763-001	SW-3	EPH (C10-C19)	----	E601A	780 mg/kg	929 mg/kg	84.3	60.0	140	----
		EPH (C19-C32)	----	E601A	420 mg/kg	472 mg/kg	90.1	60.0	140	----
Hydrocarbons (QCLot: 1617251)										

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Hydrocarbons (QCLot: 1617251) - continued										
VA24C1763-002	SW-2	F2 (C10-C16)	----	E601.SG	497 mg/kg	519 mg/kg	95.7	60.0	140	----
		F3 (C16-C34)	----	E601.SG	962 mg/kg	1040 mg/kg	92.2	60.0	140	----
		F4 (C34-C50)	----	E601.SG	762 mg/kg	834 mg/kg	91.3	60.0	140	----
Hydrocarbons (QCLot: 1620885)										
VA24C1671-003	Anonymous	F1 (C6-C10)	----	E581.VH+F1	120 mg/kg	166 mg/kg	72.6	60.0	140	----
		VHs (C6-C10)	----	E581.VH+F1	110 mg/kg	152 mg/kg	72.4	60.0	140	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1617249)										
VA24C1763-001	SW-3	Acenaphthene	83-32-9	E641A-L	0.413 mg/kg	0.418 mg/kg	99.0	50.0	140	----
		Acenaphthylene	208-96-8	E641A-L	0.409 mg/kg	0.418 mg/kg	98.0	50.0	140	----
		Acridine	260-94-6	E641A-L	0.380 mg/kg	0.418 mg/kg	91.0	50.0	140	----
		Anthracene	120-12-7	E641A-L	0.397 mg/kg	0.418 mg/kg	95.1	50.0	140	----
		Benz(a)anthracene	56-55-3	E641A-L	0.414 mg/kg	0.418 mg/kg	99.2	50.0	140	----
		Benzo(a)pyrene	50-32-8	E641A-L	0.385 mg/kg	0.418 mg/kg	92.2	50.0	140	----
		Benzo(b+j)fluoranthene	n/a	E641A-L	0.357 mg/kg	0.418 mg/kg	85.6	50.0	140	----
		Benzo(g,h,i)perylene	191-24-2	E641A-L	0.378 mg/kg	0.418 mg/kg	90.6	50.0	140	----
		Benzo(k)fluoranthene	207-08-9	E641A-L	0.352 mg/kg	0.418 mg/kg	84.2	50.0	140	----
		Chrysene	218-01-9	E641A-L	0.431 mg/kg	0.418 mg/kg	103	50.0	140	----
		Dibenz(a,h)anthracene	53-70-3	E641A-L	0.366 mg/kg	0.418 mg/kg	87.6	50.0	140	----
		Fluoranthene	206-44-0	E641A-L	0.408 mg/kg	0.418 mg/kg	97.7	50.0	140	----
		Fluorene	86-73-7	E641A-L	0.406 mg/kg	0.418 mg/kg	97.3	50.0	140	----
		Indeno(1,2,3-c,d)pyrene	193-39-5	E641A-L	0.386 mg/kg	0.418 mg/kg	92.4	50.0	140	----
		Methylnaphthalene, 1-	90-12-0	E641A-L	0.389 mg/kg	0.418 mg/kg	93.2	50.0	140	----
		Methylnaphthalene, 2-	91-57-6	E641A-L	0.441 mg/kg	0.418 mg/kg	106	50.0	140	----
		Naphthalene	91-20-3	E641A-L	0.396 mg/kg	0.418 mg/kg	94.8	50.0	140	----
		Phenanthrene	85-01-8	E641A-L	0.393 mg/kg	0.418 mg/kg	94.1	50.0	140	----
		Pyrene	129-00-0	E641A-L	0.412 mg/kg	0.418 mg/kg	98.6	50.0	140	----
		Quinoline	91-22-5	E641A-L	0.327 mg/kg	0.418 mg/kg	78.3	50.0	140	----

Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Percent Passing (QCLot: 1621937)									
QC-1621937-001	RM	Passing (0.002mm)	----	E184	22.5 %	103	74.1	126	----
QC-1621937-001	RM	Passing (0.004mm)	----	E184	25.1 %	102	76.8	123	----
QC-1621937-001	RM	Passing (0.005mm)	----	E184	26.5 %	102	77.9	122	----
QC-1621937-001	RM	Passing (0.020mm)	----	E184	41.8 %	97.0	85.8	114	----
QC-1621937-001	RM	Passing (0.0312mm)	----	E184	45.6 %	102	88.0	112	----
Percent Passing (QCLot: 1621938)									
QC-1621938-001	RM	Passing (19mm)	----	E181	100 %	100	90.0	110	----
QC-1621938-001	RM	Passing (2.0mm)	----	E181	100 %	100	90.0	110	----
QC-1621938-001	RM	Passing (25.4mm)	----	E181	100 %	100	90.0	110	----
QC-1621938-001	RM	Passing (38.1mm)	----	E181	100 %	100	90.0	110	----
QC-1621938-001	RM	Passing (4.75mm)	----	E181	100 %	100	90.0	110	----
QC-1621938-001	RM	Passing (50.8mm)	----	E181	100 %	100	90.0	110	----
QC-1621938-001	RM	Passing (76.2mm)	----	E181	100 %	100	90.0	110	----
QC-1621938-001	RM	Passing (9.5mm)	----	E181	100 %	100	90.0	110	----
Percent Passing (QCLot: 1621939)									
QC-1621939-001	RM	Passing (0.05mm)	----	E182	54.1 %	104	90.0	110	----
QC-1621939-001	RM	Passing (0.063mm)	----	E182	57.1 %	102	90.8	109	----
QC-1621939-001	RM	Passing (0.075mm)	----	E182	60.2 %	100	91.4	109	----
QC-1621939-001	RM	Passing (0.125mm)	----	E182	68.2 %	101	92.7	107	----
QC-1621939-001	RM	Passing (0.149mm)	----	E182	72 %	99.3	93.1	107	----
QC-1621939-001	RM	Passing (0.250mm)	----	E182	82.3 %	99.9	94.1	106	----
QC-1621939-001	RM	Passing (0.420mm)	----	E182	89.9 %	98.2	94.6	105	----
QC-1621939-001	RM	Passing (0.50mm)	----	E182	91.2 %	100	94.7	105	----
QC-1621939-001	RM	Passing (0.841mm)	----	E182	95.6 %	98.9	94.9	105	----
QC-1621939-001	RM	Passing (1.0mm)	----	E182	96.3 %	99.8	94.9	105	----
Organic / Inorganic Carbon (QCLot: 1623184)									
QC-1623184-003	RM	Carbon, inorganic [IC]	----	E354	0.383 %	100	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1623604)									
QC-1623604-003	RM	Carbon, total [TC]	----	E351	1.4 %	99.2	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1623734)									
QC-1623734-003	RM	Carbon, total [TC]	----	E351	1.4 %	98.7	80.0	120	----
Metals (QCLot: 1617252)									

Sub-Matrix:

Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Reference Material (RM) Report: RM Target Concentration	Recovery (%): RM	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Metals (QCLot: 1617252) - continued									
QC-1617252-003	MRCA-21	Mercury	7439-97-6	E510	0.068 mg/kg	102	70.0	130	----
Metals (QCLot: 1617253)									
QC-1617253-003	MRCA-21	Aluminum	7429-90-5	E440	22500 mg/kg	112	70.0	130	----
QC-1617253-003	MRCA-21	Antimony	7440-36-0	E440	24.8 mg/kg	104	70.0	130	----
QC-1617253-003	MRCA-21	Arsenic	7440-38-2	E440	21.2 mg/kg	103	70.0	130	----
QC-1617253-003	MRCA-21	Barium	7440-39-3	E440	788 mg/kg	102	70.0	130	----
QC-1617253-003	MRCA-21	Beryllium	7440-41-7	E440	1.82 mg/kg	106	70.0	130	----
QC-1617253-003	MRCA-21	Bismuth	7440-69-9	E440	1.78 mg/kg	105	70.0	130	----
QC-1617253-003	MRCA-21	Cadmium	7440-43-9	E440	2.15 mg/kg	103	70.0	130	----
QC-1617253-003	MRCA-21	Calcium	7440-70-2	E440	4900 mg/kg	103	70.0	130	----
QC-1617253-003	MRCA-21	Chromium	7440-47-3	E440	56.9 mg/kg	101	70.0	130	----
QC-1617253-003	MRCA-21	Cobalt	7440-48-4	E440	32 mg/kg	101	70.0	130	----
QC-1617253-003	MRCA-21	Copper	7440-50-8	E440	969 mg/kg	96.9	70.0	130	----
QC-1617253-003	MRCA-21	Iron	7439-89-6	E440	32700 mg/kg	104	70.0	130	----
QC-1617253-003	MRCA-21	Lead	7439-92-1	E440	919 mg/kg	97.5	70.0	130	----
QC-1617253-003	MRCA-21	Lithium	7439-93-2	E440	47.3 mg/kg	110	70.0	130	----
QC-1617253-003	MRCA-21	Magnesium	7439-95-4	E440	7780 mg/kg	105	70.0	130	----
QC-1617253-003	MRCA-21	Manganese	7439-96-5	E440	8640 mg/kg	100	70.0	130	----
QC-1617253-003	MRCA-21	Molybdenum	7439-98-7	E440	25.1 mg/kg	101	70.0	130	----
QC-1617253-003	MRCA-21	Nickel	7440-02-0	E440	1000 mg/kg	99.9	70.0	130	----
QC-1617253-003	MRCA-21	Phosphorus	7723-14-0	E440	660 mg/kg	115	70.0	130	----
QC-1617253-003	MRCA-21	Potassium	7440-09-7	E440	10800 mg/kg	106	70.0	130	----
QC-1617253-003	MRCA-21	Selenium	7782-49-2	E440	1.04 mg/kg	111	60.0	140	----
QC-1617253-003	MRCA-21	Silver	7440-22-4	E440	8.98 mg/kg	101	70.0	130	----
QC-1617253-003	MRCA-21	Sodium	7440-23-5	E440	1770 mg/kg	113	70.0	130	----
QC-1617253-003	MRCA-21	Strontium	7440-24-6	E440	41 mg/kg	107	70.0	130	----
QC-1617253-003	MRCA-21	Sulfur	7704-34-9	E440	3940 mg/kg	91.9	50.0	150	----
QC-1617253-003	MRCA-21	Thallium	7440-28-0	E440	0.907 mg/kg	100	70.0	130	----
QC-1617253-003	MRCA-21	Tin	7440-31-5	E440	3.79 mg/kg	102	40.0	160	----
QC-1617253-003	MRCA-21	Titanium	7440-32-6	E440	2790 mg/kg	107	70.0	130	----
QC-1617253-003	MRCA-21	Tungsten	7440-33-7	E440	6.99 mg/kg	113	70.0	130	----
QC-1617253-003	MRCA-21	Uranium	7440-61-1	E440	3.97 mg/kg	104	70.0	130	----
QC-1617253-003	MRCA-21	Vanadium	7440-62-2	E440	66.2 mg/kg	103	70.0	130	----
QC-1617253-003	MRCA-21	Zinc	7440-66-6	E440	828 mg/kg	101	70.0	130	----
QC-1617253-003	MRCA-21	Zirconium	7440-67-7	E440	6.91 mg/kg	108	70.0	130	----

Chain of Custody (COC) / Analytical Request Form

COC Number: 21 -

Page 1 of 1

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Environmental Division
Vancouver
Work Order Reference
VA24C1763

Telephone : +1 604 253 4188

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	Elaine Irving/Adrienne Ducharme
Phone:	1-604-297-2030/1-604-296-2689
	Company address below will appear on the final report
Street:	840 Howe Street, 10th Floor
City/Province:	Vancouver, BC
Postal Code:	V6Z 2M1
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax: elaine.irving@wsp.com
Email 2: adrienne.ducharme@wsp.com
Email 3: trish.tomliens@wsp.com

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax:
Email 2:

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.
Additional fees may apply to rush requests on weekends,
Date and Time Required for all E&P TATs:
For all tests with rush TATs requested, please cont

Project Information

ALS Account # / Quote #:	
Job #:	VA24-GOLD100-011
PO / AFE:	CA0026317.6821/86000/03
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#:
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (ALS use only): 1763

ALS Contact: Amber Springer Sampler: TT

Analysis Requ

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Particle Size (Wentworth - S184EA)	TOC, TIC, OC, org. matter (S351)	Metals + Hg + pH (CA09)	Moisture (E144)	EPH/LEPH/HEPH/PAHs (S668A)	PHC F2-F4 (E601.SG)	VOC/VPH/F1/BTEX, MTBE(S655C.A)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	SW-3	10-Aug-24	15:30	Sediment	6	R	R	R	R	R	R	R			
	SW-2	12-Aug-24	10:40	Sediment	6	R	R	R	R	R	R	R			
	SCV-1	12-Aug-24	15:00	Sediment	6	R	R	R	R	R	R	R			
	SCV-2	13-Aug-24	14:45	Sediment	6	R	R	R	R	R	R	R			
	SNW-1	17-Aug-24	12:30	Sediment	6	R	R	R	R	R	R	R			
	SE 18-1	17-Aug-24	11:00	Sediment	6	R	R	R	R	R	R	R			
	SW-1	18-Aug-24	11:30	Sediment	6	R	R	R	R	R	R	R			
	SW-4	18-Aug-24	9:30	Sediment	6	R	R	R	R	R	R	R			
	DUPB-SG	13-Aug-24	—	Sediment	6	R	R	R	R	R	R	R			
	TGT-Ref-1-SG	09-Aug-24	12:00	Sediment	2							R			
	KHK-Ref-1-SG	09-Aug-24	10:00	Sediment	2							R			
	DUPA-SG	09-Aug-24	—	Sediment	2							R			

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO

Are samples for human consumption/ use? ☐ YES ☐ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

Refer to quote GOLD100-011

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☑ ICE ☑ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED
Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO
Cooler Custody Seals Intact: ☐ YES ☑ N/A Sample Custody Seals Intact: ☐ YES ☑ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				6	3	2	3

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
Patricia Tomliens	20-Aug-24	11:00

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
JC	22-8-24	835am

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

APPENDIX 3D

Sediment Analytical Results

Sample ID	Lowest Detection Limits	Units	CCME [1]		NOAA Sediment Benchmarks [2]							Eco Tox EqP(@1% TOC)	SCV-1	SCV-2	DupB-SG	SW-1	SW-2	SW-3	SW-4	SNW-1	SE18-1
Date Sampled													12-Aug-2024	13-Aug-2024	13-Aug-2024	18-Aug-2024	12-Aug-2024	10-Aug-2024	18-Aug-2024	17-Aug-2024	17-Aug-2024
Time Sampled													15:00	14:45	00:00	11:30	10:40	15:30	09:30	12:30	11:00
Laboratory Sample ID													VA24C1763-003	VA24C1763-004	VA24C1763-009	VA24C1763-007	VA24C1763-002	VA24C1763-001	VA24C1763-008	VA24C1763-005	VA24C1763-006
QA/QC														FDA	FD						
Parent Sample ID															SCV-2						
Physical Parameters																					
Moisture	0.25	%	-	-	-	-	-	-	-	-	-	-	23.2	16.8	19.7	12.1	17	21.1	23.1	19.8	19.6
pH (1:2 soil:water)	0.1	pH units	-	-	-	-	-	-	-	-	-	-	8.34	8.58	8.57	9.03	8.81	8.59	8.47	8.37	8.49
Particle Size																					
Clay (<0.004mm)	1	%	-	-	-	-	-	-	-	-	-	-	7.4	1.4	1.4	<1.0	1.3	1.9	2.7	5.5	1.8
Silt (0.063mm - 0.004mm)	1	%	-	-	-	-	-	-	-	-	-	-	35.3	3.8	3.3	1.2	2.2	5.5	12.5	21.5	4.6
Sand (2.0mm - 0.063mm)	1	%	-	-	-	-	-	-	-	-	-	-	47.1	94.1	94.2	78.6	95.5	92.3	54.9	64.5	92.1
Gravel (>2mm)	1	%	-	-	-	-	-	-	-	-	-	-	10.2	<1.0	1.1	20.2	1	<1.0	29.9	8.5	1.5
Organic / Inorganic Carbon																					
Inorganic Carbon	0.05	%	-	-	-	-	-	-	-	-	-	-	1.7	0.694	0.838	1.11	0.772	0.868	1.1	1.4	0.8
Total Carbon	0.05	%	-	-	-	-	-	-	-	-	-	-	4.33	1.14	1.13	1.39	1.09	1.59	2.56	3.04	1.35
Total Organic Carbon	0.152 - 0.476	%	-	-	-	-	-	-	-	-	-	-	2.63	0.446	0.292	0.28	0.318	0.722	1.46	1.64	0.55
Inorganic Carbon (as CaCO3 equivalent)	0.4	%	-	-	-	-	-	-	-	-	-	-	14.2	5.79	6.98	9.24	6.43	7.24	9.14	11.7	6.66
Organic Matter	0.15 - 0.48	%	-	-	-	-	-	-	-	-	-	-	4.53	0.77	0.5	0.48	0.55	1.24	2.52	2.83	0.95
Metals																					
Aluminum	50	mg/kg	-	-	-	-	-	-	-	-	18000	-	5210	1530	1280	1020	1180	2450	4000	4550	1690
Antimony	0.1	mg/kg	-	-	0.63	-	-	2.4	-	-	9.3	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	0.1	mg/kg	7.24	41.6	7.4	7.24	8.2	20	41.6	70	35	-	3.61	1.17	0.93	0.36	0.51	1.48	3.59	3.74	1.35
Barium	0.5	mg/kg	-	-	-	130.1	-	-	-	-	48	-	14.9	4.25	3.9	3.1	4.32	9.24	13.1	12.4	4.59
Beryllium	0.1	mg/kg	-	-	-	-	-	-	-	-	-	-	0.32	0.1	<0.10	<0.10	<0.10	0.14	0.23	0.28	0.11
Bismuth	0.2	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron	5	mg/kg	-	-	-	-	-	-	-	-	-	-	36.1	10.9	8.7	7.6	8.4	13.8	25.3	31.1	12.3
Cadmium	0.02	mg/kg	0.7	4.2	0.38	0.68	1.2	1.4	4.21	9.6	3	-	0.049	<0.020	<0.020	<0.020	<0.020	<0.020	0.059	0.035	<0.020
Calcium	50	mg/kg	-	-	-	-	-	-	-	-	-	-	70000	18700	18100	23200	18400	26400	49800	51900	20500
Chromium	0.5	mg/kg	52.3	160	49	52.3	81	141	160	370	62	-	17.6	5.28	5.52	3.05	4.5	9.51	14.8	14.7	6.19
Cobalt	0.1	mg/kg	-	-	-	-	-	-	-	-	10	-	3.16	0.98	0.93	0.64	0.84	1.95	2.67	3.04	1.14
Copper	0.5	mg/kg	18.7	108	32	18.7	34	94	108	270	390	-	6.46	1.48	1.36	1.15	1.36	2.4	4.27	6.12	2.14
Iron	50	mg/kg	-	-	-	-	-	-	-	-	220000	-	14500	5040	3810	2390	3830	11400	17800	25300	9620
Lead	0.5	mg/kg	30.2	112	30	30.24	46.7	94	112	218	400	-	4.52	1.58	1.08	0.85	1.04	1.93	2.93	3.86	1.56
Lithium	2	mg/kg	-	-	-	-	-	-	-	-	-	-	23.5	6.9	6.3	4.9	5.5	10.5	17.7	20	7.4
Magnesium	20	mg/kg	-	-	-	-	-	-	-	-	-	-	38100	10400	9700	10400	10100	14400	25600	27500	11300
Manganese	1	mg/kg	-	-	-	-	-	-	-	-	260	-	136	39.8	37.4	33.2	34	78.5	108	138	49.8
Mercury	0.005	mg/kg	0.13	0.7	0.14	0.13	0.15	0.48	0.7	0.71	0.41	-	0.009	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0055	0.0075	<0.0050
Molybdenum	0.1	mg/kg	-	-	-	-	-	-	-	-	-	-	0.36	0.12	0.1	0.1	0.12	0.24	0.57	0.47	0.2
Nickel	0.5	mg/kg	30[(a)]	50[(a)]	15	15.9	20.9	47	42.8	51.6	110	-	9.6	2.72	2.71	1.57	2.38	5.47	8.08	8.41	3.15
Phosphorus	50	mg/kg	-	-	-	-	-	-	-	-	-	-	424	146	116	133	143	253	388	365	166
Potassium	100	mg/kg	-	-	-	-	-	-	-	-	-	-	2240	740	650	480	560	1190	1800	1880	770
Selenium	0.2	mg/kg	-	-	-	-	-	-	-	-	1	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Silver	0.1	mg/kg	1[(a)]	2.2[(a)]	0.23	0.73	1	1.1	1.77	3.7	3.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	50	mg/kg	-	-	-	-	-	-	-	-	-	-	4010	1970	2540	1330	2050	2090	3010	3330	2670
Strontium	0.5	mg/kg	-	-	-	-	-	-	-	-	-	-	46.7	14.1	12.7	16	12.6	19.6	46.2	36.1	15.4
Sulfur	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Thallium	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	0.092	<0.050	<0.050	<0.050	<0.050	0.063	0.081	0.075	<0.050
Tin	2	mg/kg	-	-	-	0.048	-	-	-	-	3.4	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	1	mg/kg	-	-	-	-	-	-	-	-	-	-	234	92.8	87.4	53.2	76	197	256	196	101
Tungsten	0.5	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	0.784	0.229	0.186	0.244	0.18	0.387	0.531	0.718	0.288
Vanadium	0.2	mg/kg	-	-	-	-	-	-	-	-	57	-	18.9	5.33	4.83	3.17	4.66	8.88	14.5	16	6.29
Zinc	2	mg/kg	124	271	94	124	150	245	271	410	410	-	14.8	4.4	4.8	3.1	3.9	8.1	12.5	13.2	5.3
Zirconium	1	mg/kg	-	-	-	-	-	-	-	-	-	-	5.9	2	1.4	1.4	1.6	2.6	3.6	5.2	2

Sample ID	Lowest Detection Limits	Units	CCME [1]		NOAA Sediment Benchmarks [2]							Eco Tox EqP(@1% TOC)	SCV-1	SCV-2	DupB-SG	SW-1	SW-2	SW-3	SW-4	SNW-1	SE18-1
Date Sampled Time Sampled Laboratory Sample ID QA/QC Parent Sample ID			ISQG	PEL	T_{20}	TEL	ERL	T_{50}	PEL	ERM	AET		12-Aug-2024 15:00 VA24C1763-003	13-Aug-2024 14:45 VA24C1763-004 FDA	13-Aug-2024 00:00 VA24C1763-009 FD SCV-2	18-Aug-2024 11:30 VA24C1763-007	12-Aug-2024 10:40 VA24C1763-002	10-Aug-2024 15:30 VA24C1763-001	18-Aug-2024 09:30 VA24C1763-008	17-Aug-2024 12:30 VA24C1763-005	17-Aug-2024 11:00 VA24C1763-006
BTEX																					
Benzene	0.005	mg/kg	-	-	-	-	-	-	-	-	-	0.06	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	0.015	mg/kg	-	-	-	-	-	-	-	-	0.004	3.6	*<0.015*	*<0.015*	*<0.015*	*<0.015*	*<0.015*	*<0.015*	*<0.015*	*<0.015*	*<0.015*
Toluene	0.05	mg/kg	-	-	-	-	-	-	-	-	-	0.67	<0.050	<0.050	<0.050	0.057	<0.050	<0.050	<0.050	<0.050	<0.050
Styrene	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, m+p-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	0.025	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, o-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Xylenes, total	0.075	mg/kg	-	-	-	-	-	-	-	-	0.004	-	*<0.075*	*<0.075*	*<0.075*	*<0.075*	*<0.075*	*<0.075*	*<0.075*	*<0.075*	*<0.075*
Methyl-tert-butyl ether [MTBE]	0.04	mg/kg											<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Volatile Organic Compounds																					
Chlorobenzene	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloromethane	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,3-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,4-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropane, 1,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, cis+trans-1,3-	0.075	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075
Dichloropropylene, cis-1,3-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,1,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,2,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichlorofluoromethane	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbon tetrachloride	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroethane	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,1-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, 1,1-	0.05 - 0.43	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.210	<0.110	<0.060	<0.050	<0.050	<0.140	<0.050	<0.115	<0.115
Dichloroethylene, cis-1,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, trans-1,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloromethane	0.045	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropylene, trans-1,3-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	0.01	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Vinyl chloride	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromodichloromethane	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromoform	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroform	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hydrocarbons																					
F1 (C6-C10)	5	mg/kg	-	-	-	-	-	-	-	-	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	5	mg/kg	-	-	-	-	-	-	-	-	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EPH (C10-C19)	200	mg/kg	-	-	-	-	-	-	-	-	-	-	<200	<200	<200	<200	<200	<200	<200	<200	<200
EPH (C19-C32)	200	mg/kg	-	-	-	-	-	-	-	-	-	-	<200	<200	<200	<200	<200	<200	<200	<200	<200
F2 (C10-C16)	25	mg/kg	-	-	-	-	-	-	-	-	-	-	<25	<25	<25	<25	<25	<25	<25	<25	<25
F3 (C16-C34)	50	mg/kg	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	50	mg/kg	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	<50	<50	<50
VHs (C6-C10)	10	mg/kg	-	-	-	-	-	-	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10
VPHs	10	mg/kg	-	-	-	-	-	-	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10
LEPHs	200	mg/kg	-	-	-	-	-	-	-	-	-	-	<200	<200	<200	<200	<200	<200	<200	<200	<200
HEPHs	200	mg/kg	-	-	-	-	-	-	-	-	-	-	<200	<200	<200	<200	<200	<200	<200	<200	<200
TEH (C10-C50)	75	mg/kg	-	-	-	-	-	-	-	-	-	-	<75	<75	<75	<75	<75	<75	<75	<75	<75
TEH (C16-C50)	75	mg/kg	-	-	-	-	-	-	-	-	-	-	<75	<75	<75	<75	<75	<75	<75	<75	<75

Sample ID	Lowest Detection Limits	Units	CCME [1]		NOAA Sediment Benchmarks [2]							Eco Tox EqP(@1% TOC)	SCV-1	SCV-2	DupB-SG	SW-1	SW-2	SW-3	SW-4	SNW-1	SE18-1
Date Sampled													12-Aug-2024	13-Aug-2024	13-Aug-2024	18-Aug-2024	12-Aug-2024	10-Aug-2024	18-Aug-2024	17-Aug-2024	17-Aug-2024
Time Sampled													15:00	14:45	00:00	11:30	10:40	15:30	09:30	12:30	11:00
Laboratory Sample ID													VA24C1763-003	VA24C1763-004	VA24C1763-009	VA24C1763-007	VA24C1763-002	VA24C1763-001	VA24C1763-008	VA24C1763-005	VA24C1763-006
QA/QC														FDA	FD						
Parent Sample ID															SCV-2						
Polycyclic Aromatic Hydrocarbons																					
Acenaphthene	0.005	mg/kg	0.00671	0.0889	0.019	0.007	0.016	0.116	0.089	0.500	0.130	-	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Acenaphthylene	0.005	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Acridine	0.01	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Anthracene	0.004	mg/kg	0.0469	0.245	0.034	0.0469	0.0853	0.29	0.245	1.1	0.28	-	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Benz(a)anthracene	0.01	mg/kg	0.0748	0.693	0.061	0.0748	0.261	0.466	0.693	1.6	0.96	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(a)pyrene	0.01	mg/kg	0.0888	0.763	0.069	0.0888	0.43	0.52	0.763	1.6	1.1	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b+j)fluoranthene	0.01	mg/kg	-	-	0.13	-	-	1.107	-	-	1.8	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b+j+k)fluoranthene	0.015	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Benzo(g,h,i)perylene	0.01	mg/kg	0.31[(a)]	0.78[(a)]	-	-	-	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(k)fluoranthene	0.01	mg/kg	2.3[(a)]	4.5[(a)]	0.07	-	-	0.537	-	-	1.8	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chrysene	0.01	mg/kg	0.108	0.846	0.082	0.108	0.384	0.65	0.846	2.8	0.95	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Dibenz(a,h)anthracene	0.005	mg/kg	0.00622	0.135	0.019	0.00622	0.0634	0.113	0.135	0.26	0.23	-	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluoranthene	0.01	mg/kg	0.113	1.494	0.119	0.113	0.6	1.034	1.494	5.1	1.3	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Fluorene	0.01	mg/kg	0.0212	0.144	0.019	0.0212	0.019	0.114	0.144	0.54	0.12	0.54	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Indeno(1,2,3-c,d)pyrene	0.01	mg/kg	0.34[(a)]	0.88[(a)]	0.068	-	-	0.488	-	-	0.6	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Methylnaphthalene, 1-	0.01	mg/kg	-	-	0.021	-	-	0.094	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Methylnaphthalene, 2-	0.01	mg/kg	0.0202	0.201	0.021	0.0202	0.07	0.128	0.201	0.67	0.064	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Naphthalene	0.01	mg/kg	0.0346	0.391	0.03	0.0346	0.16	0.217	0.391	2.1	0.23	0.48	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Phenanthrene	0.01	mg/kg	0.0867	0.544	0.068	0.0867	0.24	0.455	0.544	1.5	0.66	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Pyrene	0.01	mg/kg	0.153	1.398	0.125	0.153	0.665	0.932	1.398	2.6	2.4	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Quinoline	0.01	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

Notes

[1] Canadian Council of Ministers of the Environment (CCME). 1999. Canadian Sediment Quality Guidelines for the Protection of Aquatic Life. In: Canadian Environmental Quality Guidleines, 1999, Canadian Council of Ministers of the Environment, Winnipeg, MB.

[2] Buchman, MF. National Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Tables, NOAA OR&R Report 08-1, Seattle, WA, Office of Response and Restoration Divisions, NOAA, 2008.

[(a)] CCME Guideline values substituted with the BC ENV Working Sediment Guideline in the absence of an applicable CCME Sediment Guideline

BC ENV = British Columbia Ministry of Environment; CCME = Canadian Council of Miniters of the Environment; ISQG = Interim Sediment Quality Guidelines; mg/kg = miligram per kilogram; NOAA = National Oceanic and Atmospheric Administration; PEL = Probable Effects Levels; ERL = Effect Range Low; SWQG = working sediment quality guidelines; ERM = Effect Range-Median; AET = Apparent Effects Threshold; T20 = Concentrations corresponding to 20% probability of observing toxicity; TEL= Threshold Effects Levels; T50 = Concentrations corresponding to 50% probably of observing toxicity; pH = scale of acidity; % - percentage; "-" = no value or no result available.

Value	Greater than CCME ISQG guideline
Value	Greater than CCME ISQG and PEL guidelines
Value	Greater than NOAA sediment Benchmarks T_{20} guideline
Value	Greater than NOAA sediment Benchmarks TEL guideline
Value	Greater than NOAA sediment Benchmarks ERLguideline
Value	Greater than NOAA sediment Benchmarks T_{50} guideline
Value	Greater than NOAA sediment Benchmarks PEL guideline
Value	Greater than NOAA sediment Benchmarks ERM guideline
Value	Greater than NOAA sediment Benchmarks AET guideline

APPENDIX 3E

Sediment QA/QC Results

Appendix 3E - Table 1: Sediment Analytical Results Quality Assurance/Quality Control
Milne Port Marine Environmental Effects Monitoring Program
Milne Inlet, Baffinland, Nunavet, 2024

Sample ID	Lowest Detection Limits	Units	SCV-2	DupB-SG	Mean	Calculated RPD* (%)
Date Sampled			13-Aug-2024	13-Aug-2024		
Time Sampled			14:45	00:00		
Laboratory Sample ID			VA24C1763-004	VA24C1763-009		
QA/QC			FDA	FD		
Parent Sample ID				SCV-2		
Physical Parameters						
Moisture	0.25	%	16.8	19.7	18.25	16%
pH (1:2 soil:water)	0.1	pH units	8.58	8.57	8.575	0%
Particle Size						
Clay (<0.004mm)	1	%	1.4	1.4	1.4	NA
Silt (0.063mm - 0.004mm)	1	%	3.8	3.3	3.55	NA
Sand (2.0mm - 0.063mm)	1	%	94.1	94.2	94.15	0%
Gravel (>2mm)	1	%	<1.0	1.1	NC	NC
Organic / Inorganic Carbon						
Inorganic Carbon	0.05	%	0.694	0.838	0.766	19%
Total Carbon	0.05	%	1.14	1.13	1.135	1%
Total Organic Carbon	0.161	%	0.446	0.292	0.369	NA
Inorganic Carbon (as CaCO3 equivalent)	0.4	%	5.79	6.98	6.385	19%
Organic Matter	0.16	%	0.77	0.5	0.635	NA
Metals						
Aluminum	50	mg/kg	1530	1280	1405	18%
Antimony	0.1	mg/kg	<0.10	<0.10	NC	NC
Arsenic	0.1	mg/kg	1.17	0.93	1.05	23%
Barium	0.5	mg/kg	4.25	3.9	4.075	9%
Beryllium	0.1	mg/kg	0.1	<0.10	NC	NC
Bismuth	0.2	mg/kg	<0.20	<0.20	NC	NC
Boron	5	mg/kg	10.9	8.7	9.8	NA
Cadmium	0.02	mg/kg	<0.020	<0.020	NC	NC
Calcium	50	mg/kg	18700	18100	18400	3%
Chromium	0.5	mg/kg	5.28	5.52	5.4	4%
Cobalt	0.1	mg/kg	0.98	0.93	0.955	5%
Copper	0.5	mg/kg	1.48	1.36	1.42	NA
Iron	50	mg/kg	5040	3810	4425	28%
Lead	0.5	mg/kg	1.58	1.08	1.33	NA
Lithium	2	mg/kg	6.9	6.3	6.6	NA
Magnesium	20	mg/kg	10400	9700	10050	7%
Manganese	1	mg/kg	39.8	37.4	38.6	6%
Mercury	0.005	mg/kg	<0.0050	<0.0050	NC	NC
Molybdenum	0.1	mg/kg	0.12	0.1	0.11	NA
Nickel	0.5	mg/kg	2.72	2.71	2.715	0%
Phosphorus	50	mg/kg	146	116	131	NA
Potassium	100	mg/kg	740	650	695	13%
Selenium	0.2	mg/kg	<0.20	<0.20	NC	NC
Silver	0.1	mg/kg	<0.10	<0.10	NC	NC
Sodium	50	mg/kg	1970	2540	2255	25%
Strontium	0.5	mg/kg	14.1	12.7	13.4	10%
Sulfur	1000	mg/kg	<1000	<1000	NC	NC
Thallium	0.05	mg/kg	<0.050	<0.050	NC	NC
Tin	2	mg/kg	<2.0	<2.0	NC	NC
Titanium	1	mg/kg	92.8	87.4	90.1	6%
Tungsten	0.5	mg/kg	<0.50	<0.50	NC	NC
Uranium	0.05	mg/kg	0.229	0.186	0.2075	NA
Vanadium	0.2	mg/kg	5.33	4.83	5.08	10%
Zinc	2	mg/kg	4.4	4.8	4.6	NA
Zirconium	1	mg/kg	2	1.4	1.7	NA
BTEX						
Benzene	0.005	mg/kg	<0.0050	<0.0050	NC	NC
Ethylbenzene	0.015	mg/kg	<0.015	<0.015	NC	NC
Toluene	0.05	mg/kg	<0.050	<0.050	NC	NC
Styrene	0.05	mg/kg	<0.050	<0.050	NC	NC
Xylene, m+p-	0.05	mg/kg	<0.050	<0.050	NC	NC
Xylene, o-	0.05	mg/kg	<0.050	<0.050	NC	NC
Xylenes, total	0.075	mg/kg	<0.075	<0.075	NC	NC
Methyl-tert-butyl ether	0.04	mg/kg	<0.040	<0.040	NC	NC

Milne Port Marine Environmental Effects Monitoring Program
Milne Inlet, Baffinland, Nunavet, 2024

Sample ID	Lowest Detection Limits	Units	SCV-2	DupB-SG	Mean	Calculated RPD* (%)
Date Sampled			13-Aug-2024	13-Aug-2024		
Time Sampled			14:45	00:00		
Laboratory Sample ID			VA24C1763-004	VA24C1763-009		
QA/QC			FDA	FD		
Parent Sample ID				SCV-2		
Volatile Organic Compounds						
Chlorobenzene	0.05	mg/kg	<0.050	<0.050	NC	NC
Chloromethane	0.05	mg/kg	<0.050	<0.050	NC	NC
Dichlorobenzene, 1,2-	0.05	mg/kg	<0.050	<0.050	NC	NC
Dichlorobenzene, 1,3-	0.05	mg/kg	<0.050	<0.050	NC	NC
Dichlorobenzene, 1,4-	0.05	mg/kg	<0.050	<0.050	NC	NC
Dichloropropane, 1,2-	0.05	mg/kg	<0.050	<0.050	NC	NC
Dichloropropylene, cis+trans-1,3-	0.075	mg/kg	<0.075	<0.075	NC	NC
Dichloropropylene, cis-1,3-	0.05	mg/kg	<0.050	<0.050	NC	NC
Tetrachloroethane, 1,1,1,2-	0.05	mg/kg	<0.050	<0.050	NC	NC
Tetrachloroethane, 1,1,2,2-	0.05	mg/kg	<0.050	<0.050	NC	NC
Trichloroethane, 1,1,2-	0.05	mg/kg	<0.050	<0.050	NC	NC
Trichlorofluoromethane	0.05	mg/kg	<0.050	<0.050	NC	NC
Carbon tetrachloride	0.05	mg/kg	<0.050	<0.050	NC	NC
Chloroethane	0.05	mg/kg	<0.050	<0.050	NC	NC
Dichloroethane, 1,1-	0.05	mg/kg	<0.050	<0.050	NC	NC
Dichloroethane, 1,2-	0.05	mg/kg	<0.050	<0.050	NC	NC
Dichloroethylene, 1,1-	0.11	mg/kg	<0.110	<0.060	NC	NC
Dichloroethylene, cis-1,2-	0.05	mg/kg	<0.050	<0.050	NC	NC
Dichloroethylene, trans-1,2-	0.05	mg/kg	<0.050	<0.050	NC	NC
Dichloromethane	0.045	mg/kg	<0.045	<0.045	NC	NC
Dichloropropylene, trans-1,3-	0.05	mg/kg	<0.050	<0.050	NC	NC
Tetrachloroethylene	0.05	mg/kg	<0.050	<0.050	NC	NC
Trichloroethane, 1,1,1-	0.05	mg/kg	<0.050	<0.050	NC	NC
Trichloroethylene	0.01	mg/kg	<0.010	<0.010	NC	NC
Vinyl chloride	0.05	mg/kg	<0.050	<0.050	NC	NC
Bromodichloromethane	0.05	mg/kg	<0.050	<0.050	NC	NC
Bromoform	0.05	mg/kg	<0.050	<0.050	NC	NC
Chloroform	0.05	mg/kg	<0.050	<0.050	NC	NC
Dibromochloromethane	0.05	mg/kg	<0.050	<0.050	NC	NC
Hydrocarbons						
F1 (C6-C10)	5	mg/kg	<5.0	<5.0	NC	NC
F1-BTEX	5	mg/kg	<5.0	<5.0	NC	NC
EPH (C10-C19)	200	mg/kg	<200	<200	NC	NC
EPH (C19-C32)	200	mg/kg	<200	<200	NC	NC
F2 (C10-C16)	25	mg/kg	<25	<25	NC	NC
F3 (C16-C34)	50	mg/kg	<50	<50	NC	NC
F4 (C34-C50)	50	mg/kg	<50	<50	NC	NC
VHs (C6-C10)	10	mg/kg	<10	<10	NC	NC
VPHs	10	mg/kg	<10	<10	NC	NC
LEPHs	200	mg/kg	<200	<200	NC	NC
HEPHs	200	mg/kg	<200	<200	NC	NC
TEH (C10-C50)	75	mg/kg	<75	<75	NC	NC
TEH (C16-C50)	75	mg/kg	<75	<75	NC	NC
Polycyclinc Aromatic Hydrocarbons						
Acenaphthene	0.005	mg/kg	<0.0050	<0.0050	NC	NC
Acenaphthylene	0.005	mg/kg	<0.0050	<0.0050	NC	NC
Acridine	0.01	mg/kg	<0.010	<0.010	NC	NC
Anthracene	0.004	mg/kg	<0.0040	<0.0040	NC	NC
Benz(a)anthracene	0.01	mg/kg	<0.010	<0.010	NC	NC
Benzo(a)pyrene	0.01	mg/kg	<0.010	<0.010	NC	NC
Benzo(b+j)fluoranthene	0.01	mg/kg	<0.010	<0.010	NC	NC
Benzo(b+j+k)fluoranthene	0.015	mg/kg	<0.015	<0.015	NC	NC
Benzo(g,h,i)perylene	0.01	mg/kg	<0.010	<0.010	NC	NC
Benzo(k)fluoranthene	0.01	mg/kg	<0.010	<0.010	NC	NC
Chrysene	0.01	mg/kg	<0.010	<0.010	NC	NC
Dibenz(a,h)anthracene	0.005	mg/kg	<0.0050	<0.0050	NC	NC
Fluoranthene	0.01	mg/kg	<0.010	<0.010	NC	NC
Fluorene	0.01	mg/kg	<0.010	<0.010	NC	NC
Indeno(1,2,3-c,d)pyrene	0.01	mg/kg	<0.010	<0.010	NC	NC
Methylnaphthalene, 1-	0.01	mg/kg	<0.010	<0.010	NC	NC
Methylnaphthalene, 2-	0.01	mg/kg	<0.010	<0.010	NC	NC
Naphthalene	0.01	mg/kg	<0.010	<0.010	NC	NC
Phenanthrene	0.01	mg/kg	<0.010	<0.010	NC	NC
Pyrene	0.01	mg/kg	<0.010	<0.010	NC	NC
Quinoline	0.01	mg/kg	<0.010	<0.010	NC	NC

Notes

*The greater of the parent/duplicate reported detection limits were used in calculating the RPD.
BTEX = benzene, toluene, ethylbenzene, xylene; $CaCO_3$ = calcium carbonate; EPH = extractable petroleum hydrocarbons; FD = field duplicate; FDA = field duplicate available; HEPH = heavy extractable petroleum hydrocarbons; ID = identification; LEPH = light extractable petroleum hydrocarbons; Mean = average of two values; mg/kg = miligrams per kilogram; mm = millimitre; NA = not applicable; NC = not calculated; QA/QC = Quality Assurance/Quality Control; RPD = releative percent difference; TEH = total extractable hydrocarbons; THM = Trihalomethanes; VH = volatile hydrocarbon; VPH = volatile petroleum hydrocarbon; < = less than detection limit; > = greater than; % = percent; - = data not available.

Relative percent difference (RPD) = the difference between two values divided by the mean of the two values. RPD is calculated when the concentration is greater than five times the detection limit.

Bold values indicate an exceedance of the acceptable RPD of 50%.

Appendix 3E - Table 2: Sediment Hold Time Results Quality Assurance/ Quality Control
Milne Port Marine Environmental Effects Monitoring Program
Milne Inlet, Baffinland, Nunavet, 2024

Analysis	Hold Times - Extraction	Actual (Range)	Hold Times - Analysis	Actual (Range)	Hold Times Exceedances
pH	30 days	9 days - 16 days	30 days	9 days - 17 days	None
Moisture Content	n/a	n/a	0 days	13 days - 18 days	None
Organic/Inorganic Carbon	n/a	n/a	0 days	0 days - 19 days	None
Mercury in Soil/Sediment	28 days	9 days - 16 days	28 days	9 days - 17 days	None
Metals in Soil/Sediment	180 days	9 days - 16 days	180 days	9 days - 17 days	None
Hydrocarbons: PHC F2-F4	14 days	8 days - 16 days	40 days	1 day	None
Hydrocarbons: VH and F1	40 days	10 days to 19 days	40 days	11 days to 20 days	None
Polycyclic Aromatic Hydrocarbons	14 days	8 days - 16 days	40 days	1 day	None
Volatile Organic Compounds: BTEX	40 days	10 days to 19 days	40 days	11 days to 20 days	None

Notes:

BTEX = benzene, toluene, ethylbenzene, xylene; F1 - F4 = petroleum hydrocarbon fractions F1 to F4; n/a not applicable; PHC = petroleum hydrocarbon.

APPENDIX 3F

Power Analysis

POWER ANALYSIS - METHODS

A Type I error is concluding there is a significant effect when none exists (i.e., a false positive). Alpha (α) is the probability of committing a Type I error. A Type II error is the probability of concluding there is no significant effect when there is a real effect of some specified magnitude (i.e., a false negative). Beta (β) is the probability of committing a Type II error. The power of a statistical test (1 - β) is the probability of detecting a real effect. In this analysis, the Type I error-rate (α), also referred to as the significance level, was set to 0.05. The desired minimum statistical power was 80%, which corresponds to a type II error-rate of 0.2. Power analyses were conducted to assess the power of statistical tests under multiple effect sizes. For each model, a set of effect sizes was created, based on preliminary power analyses, so that power >80% was achieved at the largest absolute values of effect sizes, but also so that power is assessed at a range of effect sizes. Both negative and positive effect sizes were used, to assess the power of detecting either a reduction or an increase in values of the response variables. Since the analysis focused on assessment of changes to statistical power at different effect sizes, the power analysis used the observed samples sizes from the collected data.

Data Simulation following Effect Size Application

The power to detect statistically significant effects was estimated using residual bootstrapping in R v. 4.4.2 (R 2024), following the approach of Fox and Weisberg (2018). The general approach was to simulate data based on the model selected for interpretation, the observed sample size, and the residuals, and re-run the models that were used for the original analysis using the simulated data. The data simulation and analysis were repeated 5,000 times, and the proportion of repetitions where the *P*-values of interest were significant ($P<0.05$) was interpreted as the statistical power of the test.

To produce simulated data, the original model was used to predict values of the response variable. The predicted values were then adjusted according to the effect size, depending on the analysis (see below for details). The simulated data were analyzed using the same model structure as the original analysis. Effect sizes and statistical tests were applied differently to different models, as detailed below.

In this power analysis, the question of interest was the models' power to detect a difference between 2023 and 2024, across all sampled stations. To assess the power to detect between-year differences, the effect size was applied relative to 2023 data estimated values. This allowed assessing what effect size, relative to the previous sampling year, the model would be able to identify. This simulated dataset was analyzed using the models from the original analysis in the main report. The significance of the year effect was assessed and the *P*-value for the model was retained. For each effect size, the proportion of repetitions with *P*-values less than 0.05 at each transect was interpreted as the statistical power to detect a year effect. This analysis assessed how much higher or lower the 2024 values would have to be to detect a significant difference relative to 2023.

Power curves were produced, showing statistical power as a function of effect size in percentages. Horizontal lines were added to visualize statistical power values of 0.8 (hereafter sufficient power) and 0.9 (hereafter high power), and a vertical line was added to visualize the magnitude of difference that was observed in the original analysis.

POWER ANALYSIS – RESULTS

Sediment Quality – Percent Fines

The model of fines content data collected in 2023 and 2024 at the Capesize stations had sufficient power (>0.8) to detect a 30% decrease in fines or a 41% increase in fines (Figure 3G-1). The observed effect size was -37% and the effect of year was found to be significant in the original model (*P*=0.001; Section 3.4.3 in the 2024 MEEMP main report [WSP 2025]). Statistical power to detect the observed effect size was 0.93.

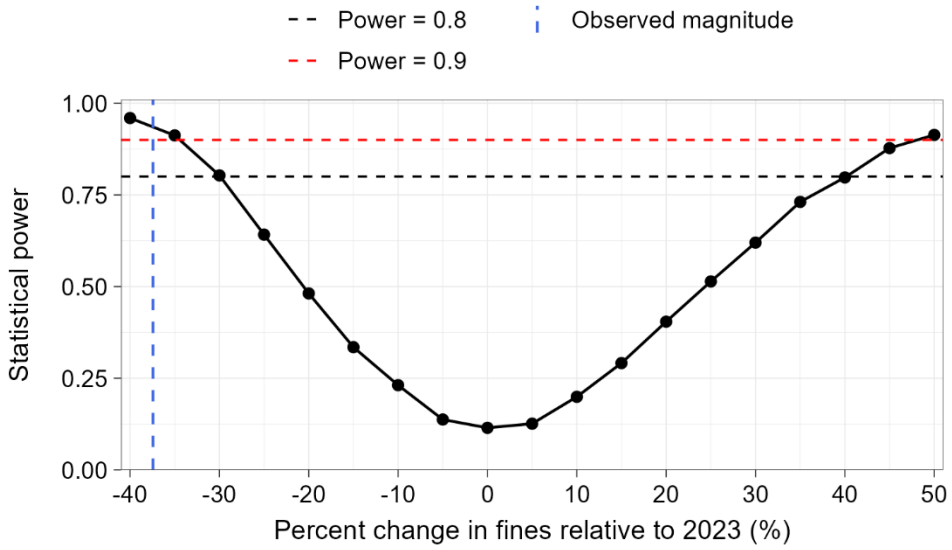


Figure 3G-1: Statistical power to detect a significant difference between fines content at the Capesize stations sampled in 2023 and 2024.

Sediment Quality – Iron Concentrations

The model of iron concentrations recorded in 2023 and 2024 at the Capesize stations had sufficient power (>0.8) to detect a 17% decrease or increase in iron concentrations (Figure 3G-2). The observed effect size was -16% and the effect of year was found to be significant in the original model (*P*<0.001; Section 3.4.4 in the 2024 MEEMP main report [WSP 2025]). Statistical power to detect the observed effect size was 0.76.

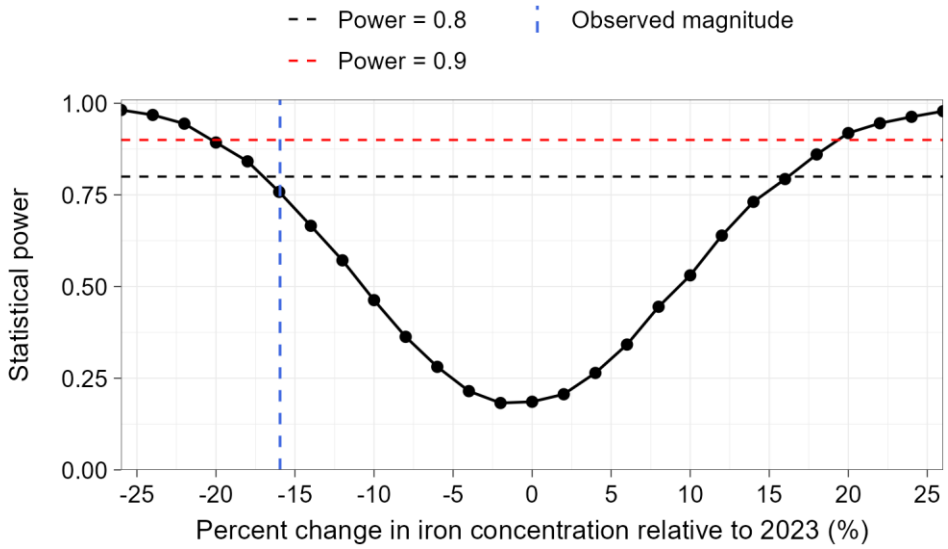


Figure 3G-2: Statistical power to detect a significant difference in iron concentration (after accounting for fines content) between 2023 and 2024 at the sampled Capesize stations.

POWER ANALYSIS – SUMMARY

Summary of Findings

In the analysis of percent fines, there was sufficient power to detect a 30% decrease in fines or a 41% increase in fines relative to 2023. The observed effect size (37% decrease in fines relative to 2023) had high statistical power. In the analysis of iron concentrations (after accounting for fines content), there was sufficient power to detect a 17% decrease or increase in iron relative to 2023. The observed effect size (16% decrease in fines relative to 2023) was just below the cutoff for sufficiency.

Overall, the results of the power analysis presented here indicate that analyses of sediment fines had slightly higher statistical power to detect scouring effects than deposition effects. However, effect sizes of 30% or more were still required to achieve sufficient power. The analysis of iron concentrations (accounting for fines content) had sufficient statistical power to detect small increases or decreases.

Given the limited statistical power to detect changes in fines content at effect sizes that may be of biological relevance, going forward, it is recommended that conclusions are not made based on strict adherence to statistical significance. Instead, effect size, uncertainty, and statistical significance and power should be considered together before ruling out spatial and temporal changes in percent fines and iron concentrations.

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REPORT

Chapter 4.0 Benthic Infauna

2024 Milne Port Marine Environmental Effects Monitoring Program (MEEMP) and Non-Indigenous Species/Aquatic Invasive Species (NIS/AIS) Monitoring Program

Submitted to:

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Submitted by:

WSP Canada Inc.

CA0026317.6821-052-R-Rev0-86000

April 25, 2025

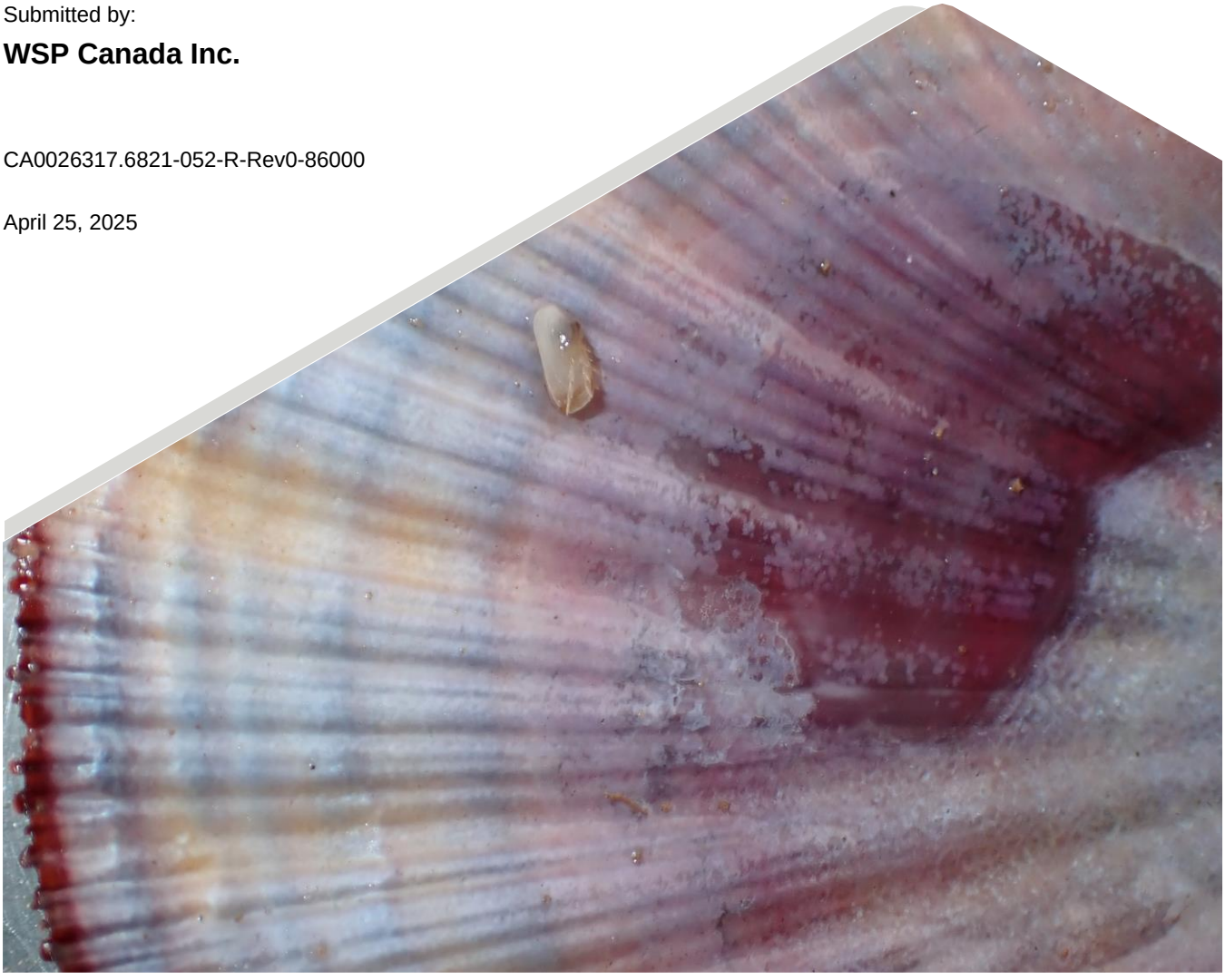


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Appendix 4F
Power Analysis

ACRONYMS AND ABBREVIATIONS

Acronym or Abbreviation	Definitions
AIC	Akaike information criterion
Biologica	Biologica Environmental Services Ltd.
CD	Chart datum
cm	Centimetre
FEIS	Final Environmental Impact Statement
HDPE	High-density polyethylene
L	Litre
mm	Millimetre
m^2	Square metres
MEEMP	Marine Environmental Effects Monitoring Program
MMP	Marine Monitoring Plan
NIRB	Nunavut Impact Review Board
NIS/AIS	Non-Indigenous and Aquatic Invasive Species
No.	Number
Org/m^2	Organisms per square meter
PC	Project Certificate
p_i	Proportion of the i^{th} taxon
%	Percent
QA/QC	Quality Assurance/Quality Control
QIA	Qikiqtani Inuit Association
S	Total number of taxa
SDI	Simpson’s Diversity Index
SEI	Simpson’s Evenness Index
SW	West Transect
TARP	Trigger Action Response Plan
UTM	Universal Transverse Mercator
x	Magnification factor

4.0 BENTHIC INFAUNA

4.1 Introduction

This chapter presents the results of the benthic infaunal monitoring program, a component of the larger Marine Environmental Effects Monitoring Program (MEEMP) conducted within the vicinity of Milne Port in Milne Inlet, during the 2024 open-water season. The 2024 MEEMP benthic infaunal sampling program was focused on the eight Capesize sampling stations introduced during the 2023 MEEMP to assess potential change in benthic infaunal communities associated with potential impacts of large ore carriers utilizing the Ore Dock. The 60-station joint radial transect benthic and sediment sampling program, with a monitoring frequency of every three years, was last conducted in 2023 and is scheduled for monitoring in 2026.

The Capesize sampling program was developed in consideration of the additional commitment for monitoring for potential effects of the increased use of larger ore carriers (i.e., Capesize and Baby Cape) in 2023 under Amendment 5 of Nunavut Impact Review Board (NIRB) Project Certificate (PC) 005. Conditions are described in Chapter 1.0, Table 1-2, PC No. 005 Conditions related to the monitoring include PC Conditions No. 76, 87, 99(a), 99(c), and 126.

4.1.1 Objectives

The MEEMP objectives are outlined in Section 1.3 of Chapter 1.0 (Program Overview). The objectives specific to the 2024 benthic infaunal sampling program are:

- Characterize and interpret benthic infauna communities at eight stations established in Milne Port for the purpose of identifying Project-related effects due to the use of larger ore vessels (Baby Cape and Capesize) at Milne Port.
- Verify predictions made in the Final Environmental Impact Statement (FEIS; Baffinland 2012, 2013) and subsequent addenda to the NIRB regarding effects on benthic infauna communities, as applicable.
- Recommend any necessary and appropriate changes to the benthic infauna component of the MEEMP for future years.
- Involve Inuit in the marine benthic infaunal monitoring program and include protocols that are responsive to Inuit concerns.

4.2 Study Design

4.2.1 Background

In 2023, NIRB accepted the Sustaining Operations Proposal and issued Amendment 5 of Project Certificate 005. Under Amendment 5, Term and Condition 83(a) required Baffinland to update the marine sediment quality program to reflect the increased use of larger ore vessels at Milne Port. Baffinland committed that stations SW-1 through SW-4, SE18-1, SNW-1, and two new stations (SCV-1 and SCV-2) added in 2023 would be monitored for scouring effects on sediment and benthic infauna for three years after the initial use of large (Baby Cape and Capesize) ore carriers in fall 2023 (Commitment 10, SOP Technical Comment QIA ME-7(3); NIRB, 2023).

Following this three-year period, Baffinland will consider a reduced frequency in sampling at these locations (once every three years) if sediment and benthic conditions at these sites are shown to be stable and within the limits of impact predictions. As the initial Capesize ore carrier use in Milne Port was planned to take place in the late ice-free period of 2023 (29 August 2023), initial sampling for Capesize vessel effects monitoring commenced in August 2023 (August 4-19, 2023), with the intention of documenting existing conditions for benthic infauna prior to the use of the larger vessels. In total, there were five Capesize (3 Newcastlemax and 2 Baby Cape) ore carrier arrivals to Milne Port during the 2023 shipping season.

In 2024, benthic infauna sampling was conducted at the eight Capesize sampling stations mentioned above that were established for the Capesize Vessel Existing Conditions Sampling Program and represents Year 1 of the Capesize program. The full joint transect radial sampling program was not conducted in 2024 based on the adjusted monitoring frequency of every three years, 2023 being the last year the program was sampled. Existing conditions for the Capesize sampling stations were also documented as part of the 2023 MEEMP.

In 2020, station SW-2 stood out as an outlier with substantially reduced benthic infaunal community indicators (e.g., density, diversity) and a coarser sediment composition relative to other stations along the West Transect and compared to previous years. While it is plausible that this result may have reflected variability inherent in a dynamic shoreline environment, the findings may also have reflected localized physical disturbance at station SW-2 in 2020, resulting from propeller-generated currents (propeller wash) from Project vessels. To determine whether Project activities contributed to these differences, targeted benthic infauna and sediment quality sampling was performed at station SW-2 in 2021 and 2022, with the addition of sampling at adjacent West Transect stations SW-1, SW-3, and SW-4 in 2022. The additional stations were added to continue monitoring for signs of recovery and to better characterize variability in benthic infauna. The 2022 and 2023 results suggested that the benthic community at SW-2 appeared to have rebounded from the apparent anomalous results in 2020, with benthic indicators returning to levels more comparable to those found in the 2019 MEEMP program (WSP 2024).

4.2.2 Indicators

Indicators and thresholds for the MEEMP program are described in Chapter 1.0, Section 1.4.2. Performance indicators selected to evaluate potential Project-induced changes in benthic infauna communities include total invertebrate density, taxa richness (number of unique[1] taxa present), Simpson's Diversity Index (SDI), and Simpson's Evenness Index (SEI). These indicators are calculated from data collected for the Capesize sampling stations and analyzed statistically to evaluate Project-related effects within the Milne Inlet study area. The overall trend in benthic communities is compared spatially and temporally examining changes in density, richness, diversity and evenness. These indicators are described in detail in Section 4.3.2.2.

Along with several other components of the MEEMP, the benthic infauna monitoring program has indicators, thresholds and risk categories that are part of Baffinland's Trigger Action Response Plan (TARP), an adaptive management process. The TARP uses effect indicators that are measured against a series of tiered thresholds (i.e., low, moderate and high-risk thresholds) that are designed to guide short-term and long-term adaptive management strategies as outlined in Baffinland (2023). Baffinland has updated the TARP as part of the revised draft Marine Monitoring Plan (MMP) (Baffinland 2023). The pre-defined actions identified in the TARP describe

[1] Did not include higher order taxa for which there exists a lower order identification. For example, does not include *Ophiura* sp. if *Ophiura robusta* is found in the same sample.

the responses that Baffinland would implement should the corresponding threshold levels be exceeded and assuming there is some degree of certainty that the measured change is Project-related. As adaptive management is beyond the scope of the present report, only the indicators, risk categories and thresholds are presented here (Section 4.3.4).



LEGEND

BATHYMETRIC CONTOUR (5 m INTERVAL)

BATHYMETRIC CONTOUR (25 m INTERVAL)

SEDIMENT AND BENTHIC INFAUNA STATIONS

CAPESIZE STATION

0 250 500

1:12,500 METRES

REFERENCE(S)

BATHYMETRY CREATED BY GOLDER FROM MULTIPLE DATA SOURCES. HYDROGRAPHY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. MILNE PORT IMAGERY CAPTURED AUGUST 2020 © 2020 DIGITAL GLOBE, INC. ADDITIONAL IMAGERY COPYRIGHT © 20240718 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTION: UTM ZONE 17 DATUM: NAD 83

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

TITLE
CAPESIZE VESSEL SEDIMENT QUALITY AND BENTHIC INFAUNA SAMPLING STATIONS 2024

CONSULTANT
wsp

YYYY-MM-DD	2025-04-23
DESIGNED	TT
PREPARED	AA
REVIEWED	TT
APPROVED	TT

PROJECT NO.	CONTROL	REV.	FIGURE
CA0026317.6821	86000.04	0	4-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

25mm

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PATH: I:\CLIENT\BAFFIN\AND IRON MINES\CA0026317.6821 NorthernPeninsula2024\Mapping\86000 MEM\2024\MEM2024 Ch4 Ch4 Report\mxd\CA0026317 6821 Fig4 1 CapesizeSedimentBasline Rev0.mxd 2025-04-23 5:05:04 PM

4.3 Materials and Methods

4.3.1 Field Methodology

The 2024 sampling program involved the collection of benthic infauna samples from eight stations in support of Capesize vessel monitoring for propeller-wash effects (Figure 4-1; Table 4-1). Each benthic sample was collected as a composite of three individual grabs using a standard Van Veen sampler with a surface area of 0.1 m². Grab samples were examined for acceptability using the criteria outlined in Section 3.3.1 in Chapter 3.0 and, upon acceptance, the three individual grab samples were split using a field splitter purpose-built for this program due to the large volume of the Van Veen sampler.

The composite material was gently rinsed with filtered seawater through a 1 cm mesh sieve to initially remove larger organisms that could otherwise become damaged when the composite material was subsequently filtered through a 0.5 mm mesh sieve. The 1 cm sieved sample was retained as a whole sample. Large debris, such as gravel and cobble, were checked for encrusting fauna and included in the sample jar if potential encrusting epifauna were observed. The 1 cm mesh sieved composited material was further split in half, totalling a ¼ field split.

The ¼ field split sample was retained and transferred to an aluminum sieving table. The sample was gently rinsed through a 0.5 mm mesh sieve with filtered seawater. A representative photograph was taken of the sieved sample, including a visible sample label (Appendix 4A). Remaining material on the sieve was placed in pre-labeled 1-L wide-mouth high-density polyethylene (HDPE) sample jars and preserved in a 10% buffered formalin solution. Containers were then sealed and inverted several times to promote mixing with the formalin. Containers were labeled internally and externally with water-resistant labels. The benthic samples were sent to Biologica Environmental Services Ltd. (Biologica) for sorting and taxonomic identifications, as per the previous MEEMP programs. Details on laboratory methods are provided in Appendix 4B.

Table 4-1: MEEMP Benthic Infauna and Sediment Quality Capesize Sampling Stations at Milne Port (2024)

Station Name	UTM Coordinates (Zone 17W)		Approximate Lateral Distance from Centre of Ore Dock (m)	Water Depth (-m) below Chart Datum [1]
	Easting	Northing		
Capesize Vessel Stations				
SCV-1	503120	7976660	148.1	34.2
SCV-2	503087	7976586	181.7	26.0
SE18-1	503433	7976699	183.8	15.7
SW-1	503162	7976554	125.2	9.6
SW-2	503052	7976533	231.8	16.9
SW-3	502970	7976468	334.1	14.5
SW-4	502867	7976434	441.3	15.6
SNW-1	503301	7976745	124.2	32.6

Notes:

m = metres; UTM = Universal Transverse Mercator

[1] Sample depth was converted to meters chart datum (CD), estimated using tide table for Milne Inlet, Nunavut (https://tides.gc.ca/en/stations/05791 [accessed March 2025]). The negative (-) numbers indicate 'below' CD.

4.3.2 Data Analysis

4.3.2.1 Data Screening

Detailed sorting methods are provided in Appendix 4B. Taxonomic data provided by Biologica were screened for incidental organisms not considered to be part of the marine benthic infauna community, such as freshwater, terrestrial, planktonic, and parasitic taxa. Meiofauna, such as nematodes, were removed from benthic analysis because these species often fall through the 0.5 mm mesh sieve used to separate benthic infauna from sediments in the field. Nematode species counts would thus not represent true population numbers at each station and could bias station comparisons of total abundance and species diversity. Taxa not expected to have significant direct exposure to sediments were also removed, which included Ostracoda (planktonic taxa) and Copepoda (parasitic and planktonic). Removed and incidental taxa were included in the taxonomic review as part of the non-indigenous species and aquatic invasive species monitoring described in Chapter 8.0.

4.3.2.2 Benthic Infauna Community Indicators

A description of performance indicators (invertebrate density, taxa richness, Simpson's Diversity Index, Simpson's Evenness Index) selected to evaluate potential Project-induced changes in benthic infauna communities is provided below.

Invertebrate Density

Total invertebrate density was calculated as the number of organisms per square metre (organism/m^2) for each station. The surface area of the Van Veen (0.1 m^2) was multiplied by three to account for the three composite grab samples using the following equation:

$$Density = \frac{number\ of\ organisms\ (org)\ per\ station}{(grab\ sampler\ area * 3\ composites)}$$

Taxa Richness

Taxa richness is the total number of unique taxa per station and provides an indication of the diversity of benthic invertebrates in an area; a higher richness value typically indicates a healthier and balanced community.

Simpson's Diversity Index (SDI)

Simpson's Diversity Index (SDI) measures the proportional distribution of organisms in the community. The SDI considers the abundance patterns and taxonomic richness of the community. Certain conditions may favour one taxon over another, resulting in the community being dominated by a few taxa, which is reflected in decreased diversity (Simpson 1949). The SDI value ranges between zero and one, where lower values indicate a less diverse community, and higher values indicate a more diverse community. The SDI was calculated using the formula provided by Krebs (1999):

$$SDI = 1 - \sum_{i=1}^{S} (p_i)^2$$

Where:

- SDI = Simpson's diversity index
- S = the total number of taxa
- p_i = the proportion of the i^{th} taxon

Simpson's Evenness Index (SEI)

Simpson's Evenness Index (SEI) is a measure of the relative abundance of the different taxa contributing to richness, or in other words, how evenly the total invertebrate density is distributed among the taxa present at the station. SEI compares the observed community to a hypothetical community, which consists of the same number of taxa that are equally abundant. The SEI is included along with the SDI to provide context as to whether richness or the distribution of total density among taxa is driving the SDI values. The SEI is also expressed as a value between one and zero, with one representing high evenness (i.e., equal numbers of all taxa present in a sample) and zero representing low evenness (i.e., a high degree of dominance by one or a few taxa). Communities with a high degree of dominance by one or a few taxa are often referred to as "stressed" and may indicate the influence of natural and/or anthropogenic stressors.

The SEI values were calculated using the following formula (Smith and Wilson 1996):

$$SEI = 1 / \sum_{i=1}^{S} (p_i)^2 / S$$

Where:

- SEI = Simpson's evenness index
- S = the total number of taxa
- p_i = the proportion of the i^{th} taxon

4.3.2.3 Statistical Analysis

Benthic infauna data collected during the 2023 (existing conditions before Capesize vessel use) and 2024 (Year 1 for Capesize vessel use) sampling programs were analyzed to assess potential effects of propeller wash in the study area. For each Capesize sampling station, temporal trends were evaluated visually using time series plots for each parameter. The analyses of benthic fauna total density, richness, SDI, and SEI were performed in the statistical environment R v.4.4.2 (R 2024) using the package "glmmTMB" (Brooks et al. 2017). To account for potential effects of habitat, each analysis considered three models – one with only fixed effect of year, one with the fixed effects of year but also a covariate of depth (as a nonlinear effect), and one with the fixed effects of year but also a covariate of fines content (as a nonlinear effect). These candidate models were compared using Akaike's Information Criterion corrected for small sample size (AIC_C), where the model with the lowest AIC_C was considered as the best supported by the data and was selected for interpretation (Burnham and Anderson 2002).

The change in benthic density between 2023 (existing conditions) and 2024 (Year 1) was assessed using a mixed-effect negative binomial regression. The response variable was infauna abundance, and an offset of grab surface area was used to account for difference in grab sizes. The fixed effects were the categorical effect of year and a nonlinear effect of fines content (used to account for the effect of habitat); the random effect was an intercept of station.

The change in benthic richness between 2023 and 2024 was assessed using a mixed-effect Poisson regression. The fixed effects were the categorical effect of year and a nonlinear effect of fines content (used to account for the effect of habitat); the random effect was an intercept of station.

The change in Simpson's Diversity Index of benthic infauna between 2023 and 2024 was assessed using a mixed-effect beta regression. The fixed effects were the categorical effect of year and a nonlinear effect of depth content (used to account for the effect of habitat); the random effect was an intercept of station. The change in Simpson's Evenness Index was assessed in the same way, except that habitat effects were accounted for using fines rather than depth.

4.3.3 Quality Management

Quality assurance and quality control (QA/QC) procedures were applied to the field collection, data analysis, and reporting tasks within the benthic infauna component to verify that the data presented were valid and of acceptable quality to address objectives stated in Section 4.1.1.

4.3.3.1 Field QA/QC

QA measures undertaken to confirm benthic infauna sample integrity are the same as those described for sediment quality as noted in Section 3.3.1. Each grab sample was examined for acceptability based on the following criteria:

- The sampler was fully closed.
- There was adequate penetration depth (i.e., sediment volume greater than 25% full).
- The sample did not appear overfilled or disturbed, and the sample did not appear to have been collected at an angle.
- The sampler did not appear to be leaking sediment at a substantial rate (i.e., the top of the sediment profile did not appear to be sloping inwards).

4.3.3.2 Laboratory and Data Analysis QA/QC

Biologica's laboratory QA/QC measures included an assessment of sorting recovery, identification error, and precision/accuracy of sub-sampling. Laboratory procedures included sample sorting measures, spot-checks of portions of samples by a second sorter to ensure all organisms have been removed from the sample, preliminary counting of major groups, and collaborative identification to accurately identify species to their lowest practicable level. Further detailed discussion of the laboratory QA/QC procedures used by Biologica and the findings of their QA/QC assessment are provided in their laboratory reports in Appendix 4B and 4C.

Benthic data received from Biologica were reviewed upon receipt to verify that specified laboratory data quality objectives were met. No inconsistencies were noted that required follow up with the laboratory. Screening of the benthic data and calculation of the benthic indicators were reviewed by a second biologist for accuracy.

4.3.4 TARP Assessment

As part of applying the Trigger Action Response Plan benthic infauna performance indicators were screened against condition status/thresholds in 2024, in order to assess risk levels for each performance indicator (Table 4-2).

Table 4-2: Marine Environment TARP Framework for Benthic Infauna[1]

Component	Performance Indicators	Condition Status/Threshold		
		Low Risk	Moderate Risk	High Risk
Benthic Infauna	• Density • Taxa Richness • Simpson's Diversity Index • Simpson's Evenness Index	• Spatial and temporal trend analysis for density or taxa richness suggest a pattern indicative of Port-related effects beyond FEIS[2] predictions. AND • Low Risk Status/Threshold is triggered for sediment.	• Spatial and temporal trend analysis for density and taxa richness suggest a pattern indicative of Port-related effects beyond FEIS[2] predictions. AND • Moderate Risk Status/Threshold is triggered for sediment.	• To be determined based on outcome of moderate response investigations.

[1] TARP criteria were applied for the Capesize Vessel Sampling Program however there is a 2-year limitation in the data available for analysis (2023 [existing conditions] vs 2024 [Year 1]).
[2] Predictions made in the Final Environmental Impact Statement (FEIS; Baffinland 2012, 2013) and other submissions to the Nunavut Impact Review Board (NIRB) regarding effects on benthic infauna, as applicable.

4.4 Results

Benthic invertebrate community samples were collected from eight stations located in close proximity to the Ore Dock at Milne Port to monitor potential impacts from the use of the larger Capesize vessels within the study area (Figure -1). Sampling of Capesize vessel stations occurred between 10 and 18 August 2024. Nine Capesize vessels (including Baby Cape) utilized the Ore Dock during the 2024 open water shipping season, with the first vessel arriving in the area on 01 August 2024 and the last vessel arriving on 24 September 2024. Three of the nine Capesize carriers arrived in Milne Port during the sediment sampling program and the remaining 5 vessels arrived once the program had been completed. Five Capesize vessels (including Baby Cape) had arrived in Milne Port during 2023, following completion of the 2023 sampling to document existing conditions before the arrival of the larger Capesize vessels.

Photographs of each sample are provided in Appendix 4A. The laboratory methods report from Biologica and results provided by Biologica are located in Appendices 4B and 4C, respectively. Summary results of the taxonomic analysis of benthic infauna are available in Appendix 4D. The benthic community indicator plots for 2023 and 2024 are available at Appendix 4E.

4.4.1 2024 Benthic Infauna Community Indicators

Benthic invertebrate community indicators calculated from infaunal data collected at the eight Capesize sampling stations are summarized in Figure 4-2 and described below.

- **Total Density**—Density was variable between stations, ranging from 1,073 org/m^2 (SW-1) to 20,121 org/m^2 (SW-4). The density range was lower than in 2023, which varied between 6,224 org/m^2 (SW-3) and 23,756 org/m^2 (SW-4). Station SW-2 saw the largest change in density between 2023 and 2024, dropping from 23,756 org/m^2 in 2023 to 2,389 org/m^2 in 2024 (Appendix 4E – Figures 1-2). However, other stations such as SW-4 decreased by a much smaller amount, and some stations such as SNW-1 had a higher density in 2024 compared to 2023.
- **Richness**— Richness was highest at station SW-4 (71 unique taxa) and lowest at SW-1 (9 unique taxa). The same observation was previously made in 2023, with 61 taxa and 38 taxa, respectively. The most pronounced decrease in richness was observed at SW-1 between the two years, which went from 38 taxa in 2023 to 9 taxa in 2024.
- **Simpson's Diversity Index**—All stations had diverse communities, with SDI values ranging from 0.81 to 0.94, with the highest values observed at station SNW-1. The lowest value was observed at station SW-1.
- **Simpson's Evenness Index**—SEI ranged from 0.10 to 0.59 with the highest value at station SW-1 and the lowest at SW-4, suggesting that distribution of organisms across taxa in SW-4 was generally uneven compared to SW-1. This low evenness indicates that only a few taxa made up the majority of organisms in the community (e.g. *Philomedes* sp., *Chaetozone* spp., *Nereimyra aphroditoides*). A similar low evenness was observed at all stations in 2023.

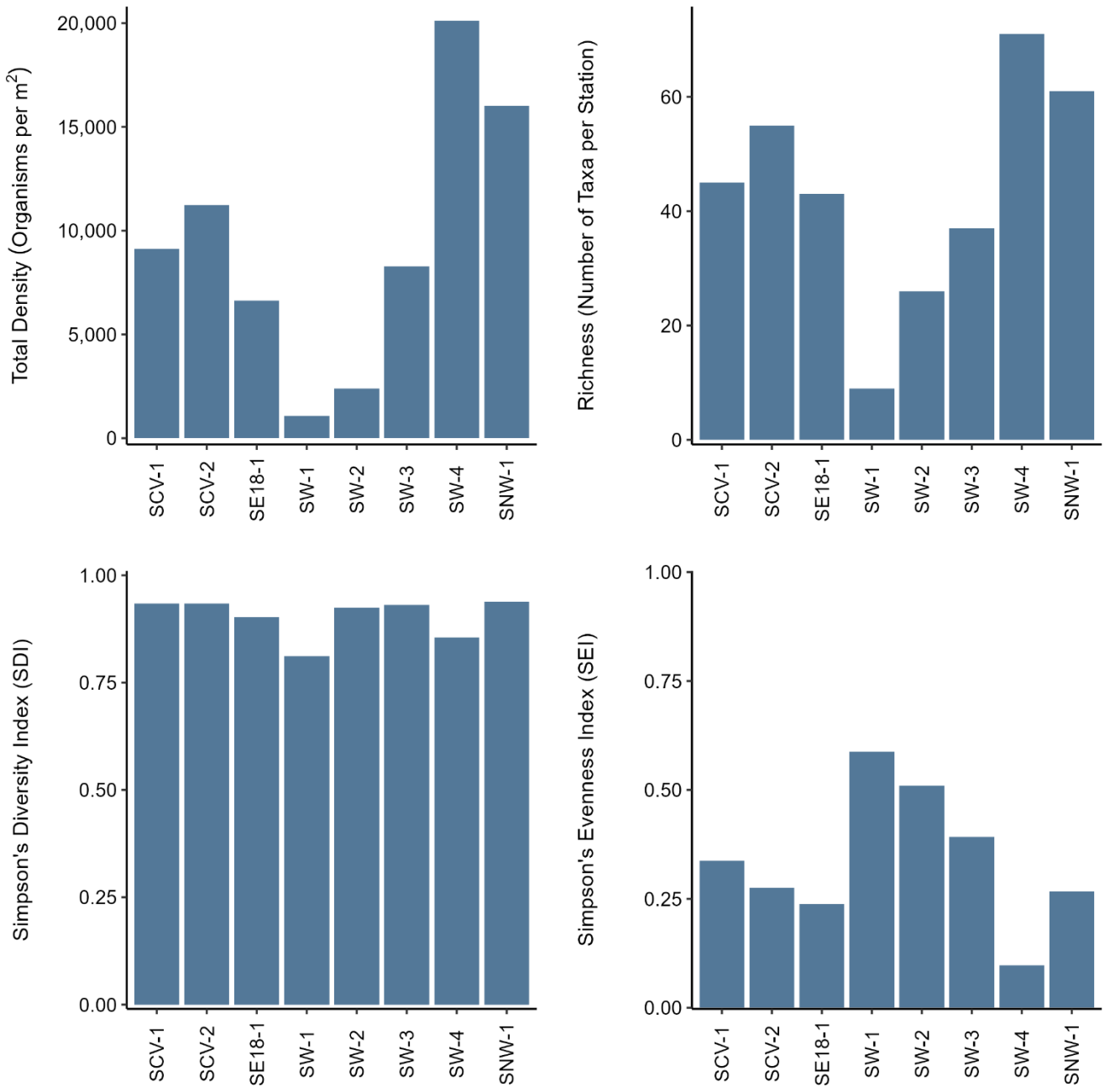


Figure 4-2: Community Endpoints of Benthic Infauna from Capesize Vessel Stations Near the Ore Dock Area, Milne Port, 2024.

4.4.2 2024 Relative Densities of Major Benthic Invertebrate Taxonomic Groups

Overall, benthic communities were dominated by Polychaeta (42 to 84% of relative abundance), followed by ostracods, bivalves and Malacostraca (Figure 4-3). The most abundant polychaetes were *Nereimyra aphroditoides* (SE18-1 and SW-1), *Chaetozone* sp. (SCV-2, SE18-1, SNW-1, SW-2, SW-3 and SW-4), *Prionospio* sp. (SCV-1 and SCV-2), *Pygospio elegans* (SCV-2) and *Cossura longocirrata* (SCV-1 and SNW-3). Ostracods (*Philomedes* sp.) were present at higher densities in stations SW-4, SNW-1 and SCV-1. A higher proportion of malacostracans, predominantly amphipods and cumaceans, were found at West Transect stations SW-3 and SW-4, whereas bivalves presented a higher proportion at stations not along this transect (i.e., SCV-1, SCV-2, SE18-1 and SNW-1) (Figure 4-3).

The most common bivalve species were *Hiatella arctica*, which accounted for 0% to 10% of total density across the stations, with the lowest relative density at SCV-1 and the highest relative density at SW-1, and *Ennucula tenuis*, which accounted for approximately 6% to 8% at SNW-1 and at SCV-1, respectively. The proportion of other taxa were low across all stations, except at station SW-1, which had a relative density of 16% (dominated by unidentified balanomorphans and the brittle star *Ophiura sarsii*).

A higher proportion of bivalves was observed in 2024 compared to 2023 at stations SCV-2, SE18-1, SW-1, SW-2 and SW-3 (Appendix 4E – Figures 3-4). On the contrary, a drop in ostracod and malacostracan relative densities occurred at stations SCV-2, SE18-1, SNW-1, SW-1 and SW-3 (Appendix 4D). These differences likely reflect the natural variation in the benthic infaunal community.

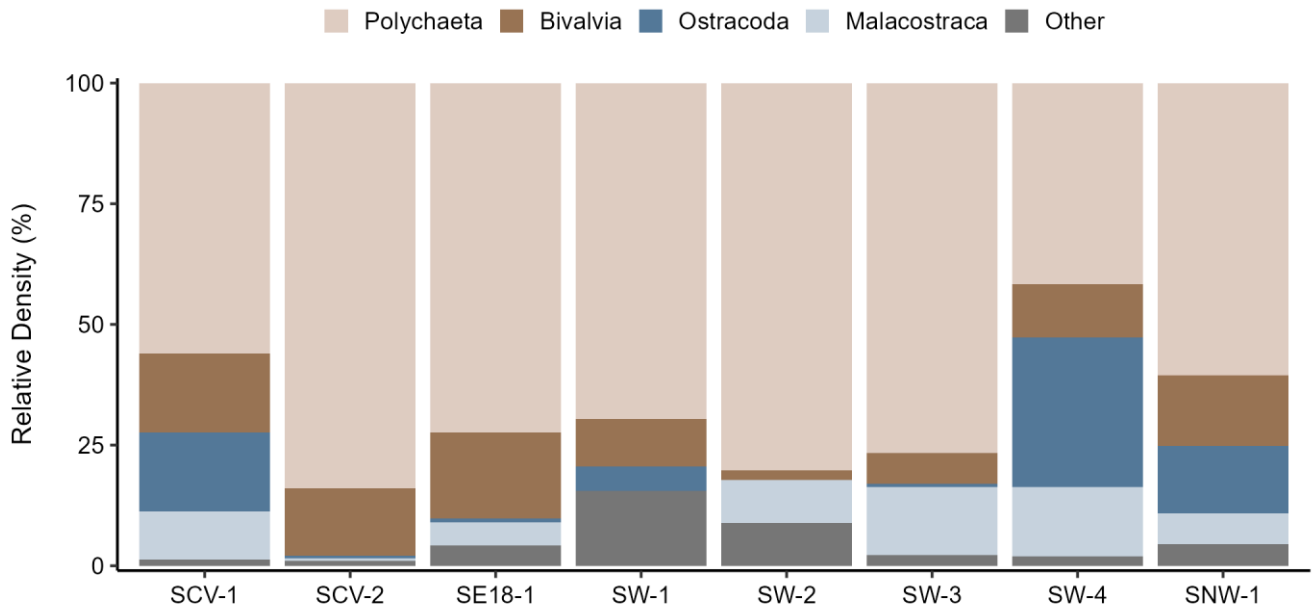


Figure 4-3: Relative Density of Major Benthic Infauna Taxonomic Groups from Capesize Vessel Stations Near the Ore Dock Area, Milne Port, 2024.

4.4.3 Statistical Comparisons of Community Indicators (2019 to 2024)

Generalized linear models were used to evaluate the significance of changes in community indicators (i.e., total density, richness, SDI, and SEI) between 2023 and 2024, using data collected at Capesize sampling stations. The main effect of each model included the categorical effect of year. Additionally, a main effect of percent fines or depth was used to account for the ecological relationship between total density and habitat variation. Both percent fines and depth were modelled using non-linear terms (i.e., natural splines) to account for non-linearity in trends of indicators relative to habitat variability.

4.4.3.1 Total Density

Total density was highly variable between years within stations (Figure 4-4). At station SNW-1, total density increased over time, whereas total density at SW-3 decreased between 2019 and 2020 and has remained relatively stable since. Total density at stations SW-1 and SW-2 fluctuated between 2019 and 2023, followed by a large decrease between 2023 and 2024. At stations SCV-1 and SE18-1, total density decreased slightly between 2023 and 2024.

The change in total density between 2023 and 2024 was not statistically significant (P=0.059), with an effect size of -34%. That is, total density was on average 34% lower in 2024 when compared to 2023 (on the ratio scale). The lack of significance is likely due to the high variability in the data – while 90% decreases in density were recorded for SW-1 and SW-2, SNW-1 and SW-3 showed 33–49% increases in density, and SW-4 and SCV-2 had changes of -15 to +5%. This variability and the small sample size resulted in the lack of statistical significance. The statistical power to detect the observed difference between 2023 and 2024 values was low (power = 0.5; Appendix 4F).

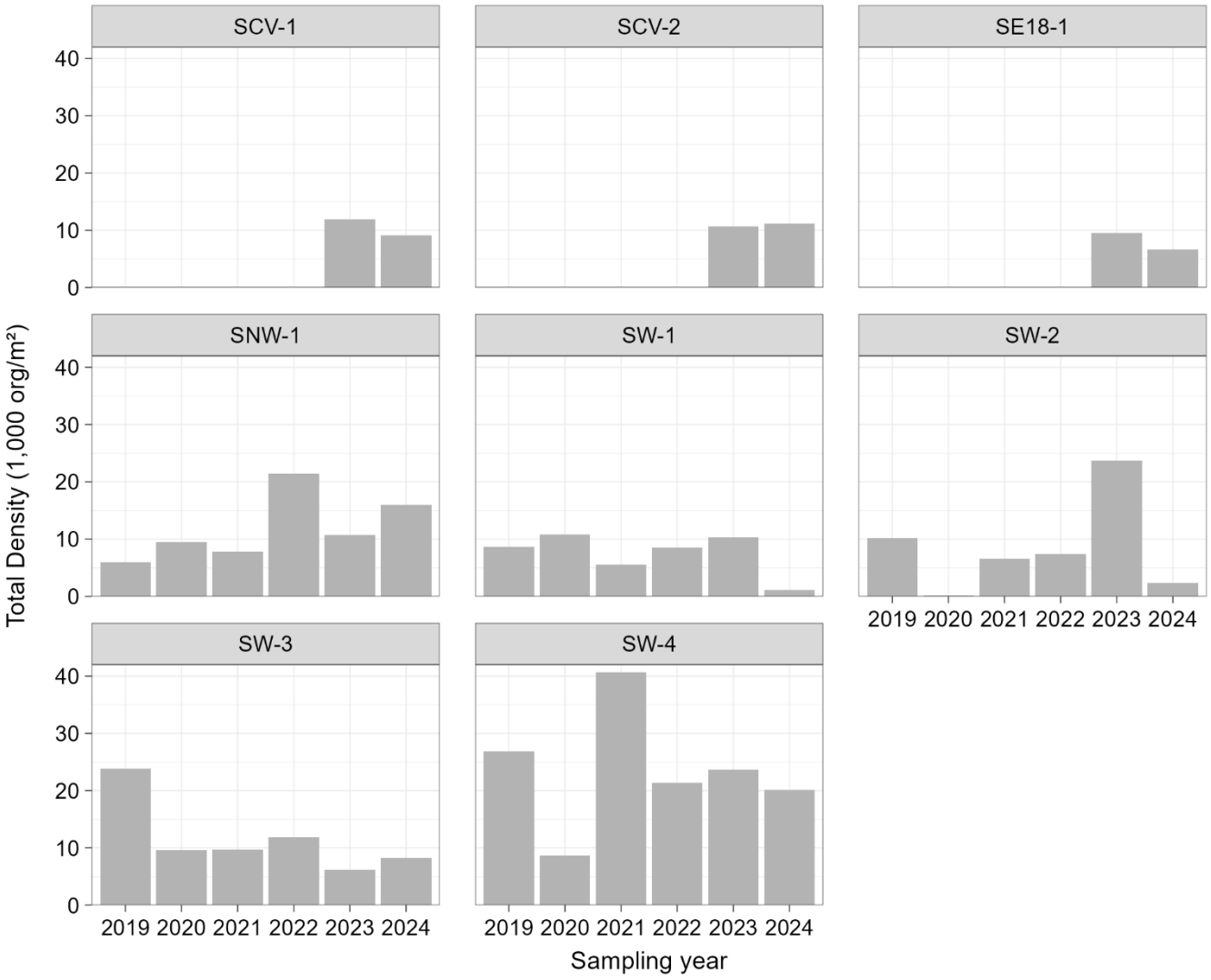


Figure 4-4: Observed Values of Benthic Infauna Total Density at Capesize Sampling Stations, 2019–2024.

4.4.3.2 Richness

At the station scale, benthic infauna richness differed between years (Figure 4-5). Richness stayed relatively stable over the years at SNW-1, SW-4, and SE18-1. At SW-3, there was a decrease in richness between 2019 and 2020, however, richness has remained consistent at this station since 2020 with a -5% decrease in 2024. Richness at SW-2 has varied considerably with a large decrease observed in 2020 before rebounding in 2021, 2022, and 2023, and then decreasing again in 2024, but not by the magnitude observed in 2020.

Between 2023 and 2024, changes in richness differed between stations. At four stations (i.e., SCV-1, SW-1, SW-2 and SW-3), richness declined between 2023 and 2024, with effect sizes ranging from -76% (SW-1) to -5% (SW-3). At the remaining four stations, richness increased, with effect sizes ranging from +7% (at SNW-1) to

+20% (at SCV-2). Overall, the change in richness between 2023 and 2024 was not statistically significant (*P*=0.19), with an effect size of -10%. That is, richness was on average 10% lower in 2024 when compared to 2023 (on the ratio scale). The statistical power to detect the observed difference between 2023 and 2024 values was low (power = 0.3; Appendix 4F), as to be expected given the small effect size and high data variability.

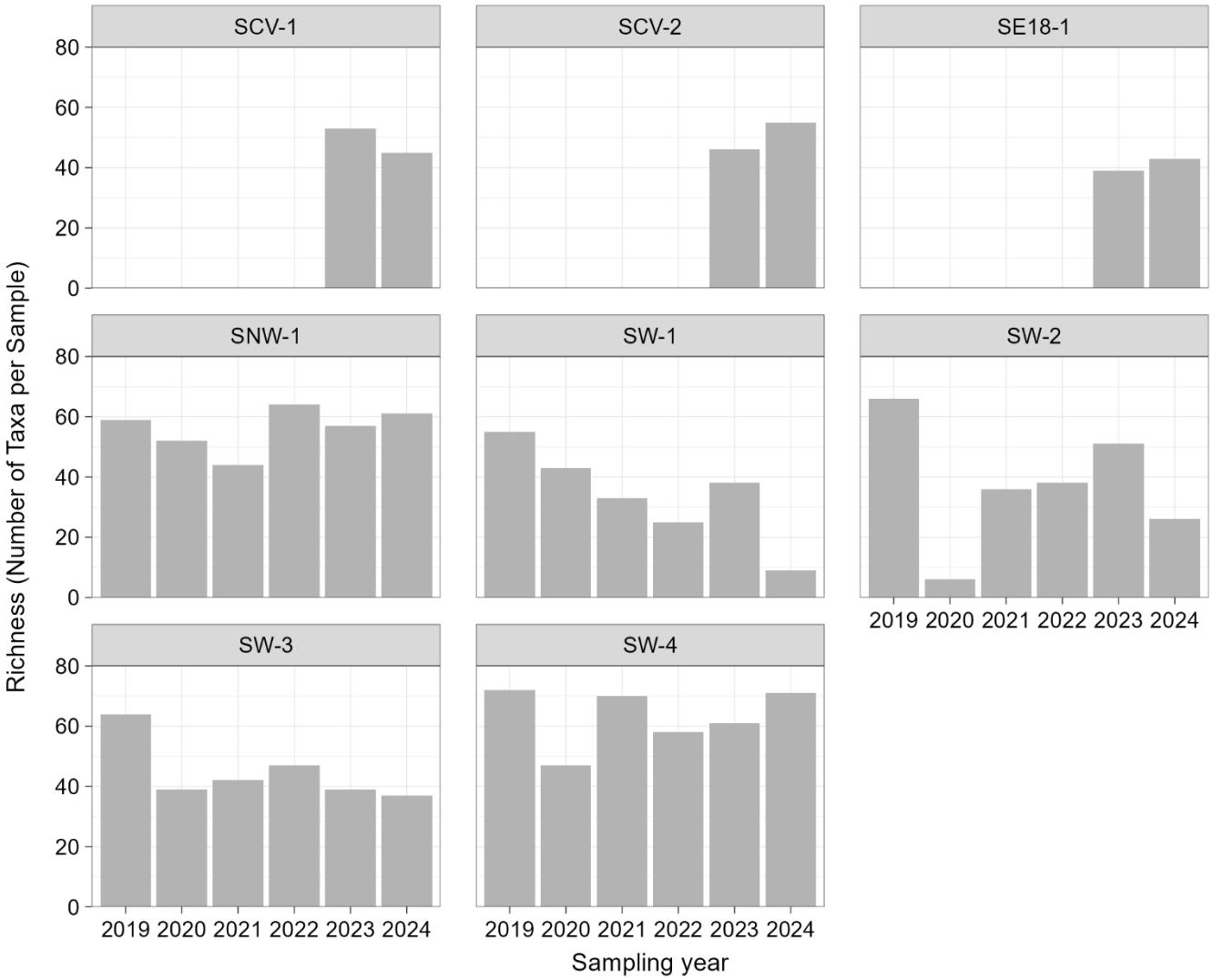


Figure 4-5: Observed Values of Benthic Infauna Richness at Capesize Sampling Stations, 2019–2024.

4.4.3.3 Simpson's Diversity Index

The temporal distribution of SDI values differed between stations (Figure 4-6). Similar to richness (Figure 4-5), SDI stayed relatively stable over the years at SNW-1, SW-3 and SW-4 but some decline has been observed over time at SW-1, and fluctuations observed at SW-2. Stations SCV-1 and SCV-2 stayed stable between 2023 and 2024, whereas SDI values at SE18-1 showed an increase.

Between 2023 and 2024, seven out of eight stations had an increase in SDI, with increases that ranged from 0.7% (SW-1) to 266% (SW-2) (on the odds scale as explained in Appendix 4F). At SW-4, the only station where a decrease in SDI was recorded, SDI values decreased by 42% (on the odds scale) between 2023 and 2024. The change in SDI between 2023 and 2024 was statistically significant (P=0.048), with an effect size of +45%. That is, SDI was on average 45% higher in 2024 when compared to 2023 (on the odds scale). The statistical power to detect the observed difference between 2023 and 2024 values was low (power = 0.65; Appendix 4F). The large effect sizes required to obtain sufficient power for increasing SDI were due to the high SDI values estimated in 2023 (which were used as the baseline).

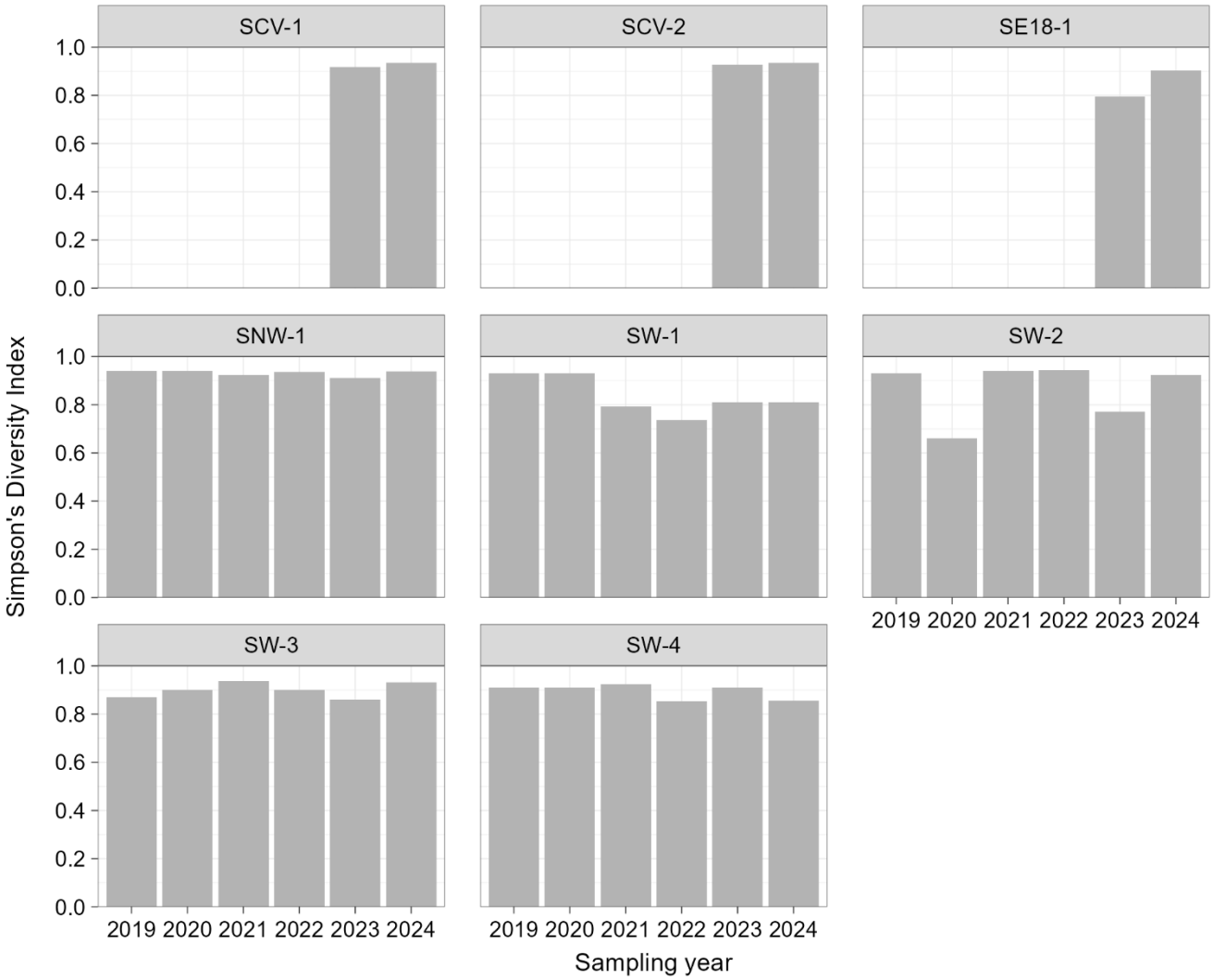


Figure 4-6: Simpson's Diversity Index Values for Benthic Infauna at Capesize Sampling Stations, 2019–2024.

4.4.3.4 Simpson's Evenness Index

The temporal distribution of SEI values differed between stations (Figure 4-7). Stations SCV-1 and SE18-1 showed an increase in SEI between 2023 and 2024, whereas values in SCV-2 remained similar. SEI stayed relatively stable over the years at SNW-1 and SW-4 but varied strongly at SW-1, SW-2 and SW-3.

Between 2023 and 2024, two stations had a decrease in SEI, ranging from -51% (SW-4) to -12% (SCV-2). The remaining five stations all had increases in SEI between 2023 and 2024, ranging from +46% (SNW-1) to 953% (SW-2) (on the odds scale as explained in Appendix 4F). The change in SEI between 2023 and 2024 was statistically significant (P=0.001), with an effect size of +143%. That is, SEI was on average 143% higher in 2024 when compared to 2023 (on the odds scale). The statistical power to detect the observed difference between 2023 and 2024 values was high (power = 0.95; Appendix 4F).

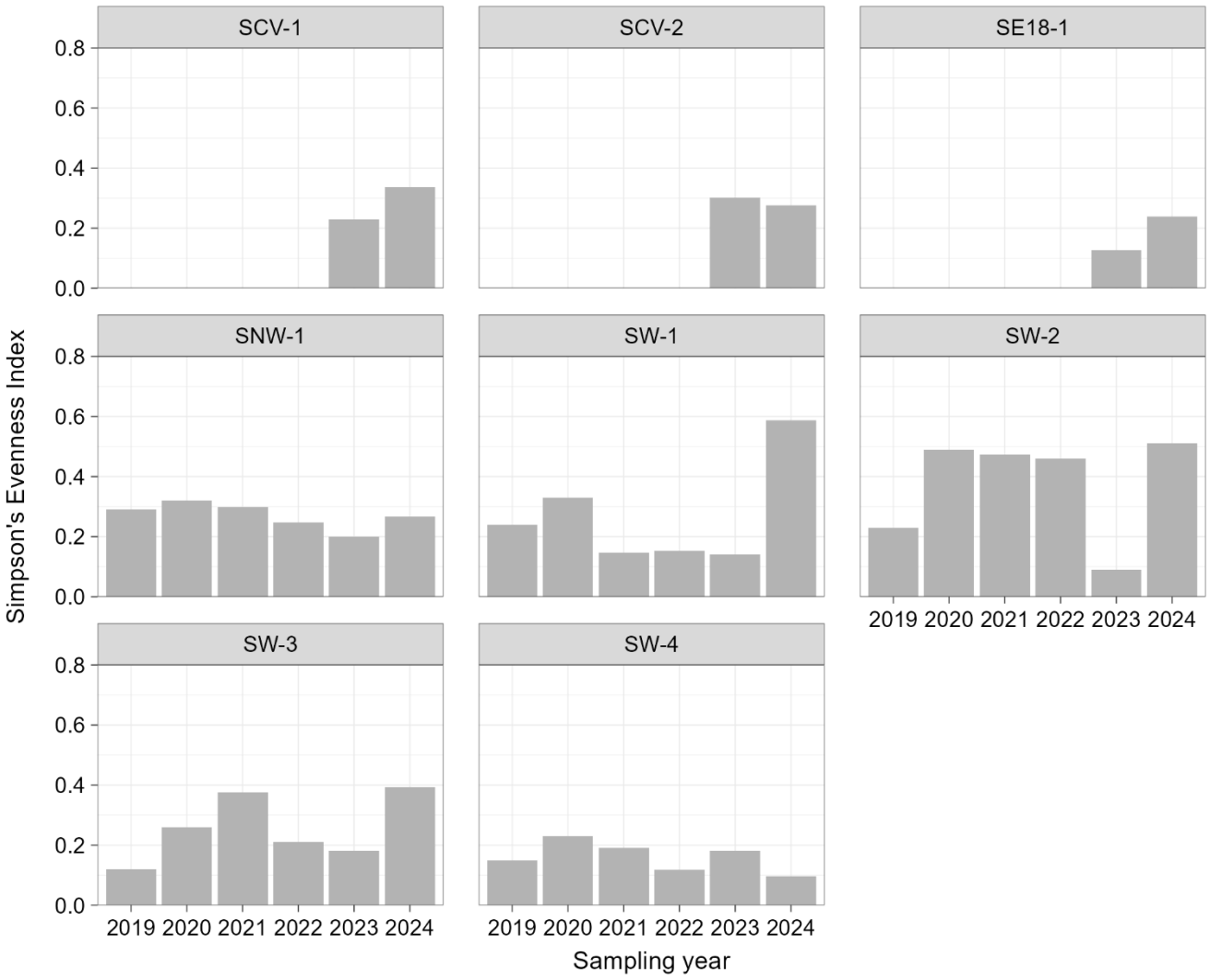


Figure 4-7: Simpson's Evenness Index Values for Benthic Infauna at Capesize Sampling Stations, 2019–2024.

4.4.4 2024 TARP Assessment

Results of the benthic infauna assessment above were screened against the TARP criteria (Table 4-2). The 'Low Risk' threshold was not triggered for benthic infauna in the 2024 MEEMP which was focussed on comparing the Year 1 Capesize sampling station results with the 2023 existing conditions results for these stations.

There were no statistically significant changes in the benthic performance indicators density and richness between 2023 and 2024, although variability was noted in the datasets. With respect to individual stations, there were noticeable decreases in benthic densities and richness at SW-1 and SW-2. As discussed in Chapter 3.0, these stations experienced some level of scouring before 2023 and the proportion of fines remained low in 2024 with no observed rebound. Scouring of sediments was predicted down to 5 cm at SW-2 and down to 50 cm at SW-1 by the Ship Wake and Propeller Wash Assessment for the Capesize vessels (WSP 2023) as shown in Figure 3-9. Given that benthic performance indicators were not significantly different in Year 1 (2024) compared to existing conditions in 2023, and any visual decreases in benthic indicators appeared to be within Port-related effects predicted by FEIS and subsequent addenda, a 'Low Risk' threshold was not triggered in 2024 for the Capesize assessment.

4.5 Discussion

The 2024 MEEMP benthic infauna sampling program was focused on the eight Capesize sampling stations implemented in 2023 to assess potential changes in marine sediment and benthic infaunal community indices associated with potential impacts of Baby Cape and Capesize ore carriers utilizing the Ore Dock. Overall, monitoring results have remained within original FEIS predictions and subsequent addenda (Baffinland 2012, 2013). The FEIS predictions forecasted no significant residual effects on sediment quality but indicated the potential for minor localized sediment disturbance associated with propeller wash, which is expected to stabilize over time, as well as the potential for minor localized increases in nutrients, metal, or hydrocarbon concentrations that could impact benthic invertebrate communities. Subsequent to the FEIS, WSP conducted a Ship Wake and Propeller Wash Assessment to address possible project effects on the marine physical environment related to shipping activities associated with increased large vessel traffic (WSP 2023). This assessment predicted some scour to occur over most of the berthing area for Capesize vessels to depths ranging from 5 cm over the broader berthing area to 50 cm in a more localized area adjacent to the Ore dock. The 2024 sediment quality assessment evaluated sediment quality down to 5 cm sediment depth consistent with the MEEMP and sampling at the Capesize stations in 2023. This sediment depth is also the most relevant to the assessment of benthic infauna communities.

4.5.1 Benthic Community Composition

In 2024, benthic communities were largely dominated by polychaetes followed by ostracods, bivalves and malacostracans. Overall, the relative abundances of major taxa observed in 2024 were similar to 2023 for the eight Capesize sampling stations. At most stations, tubicolous polychaetes (the spionids, *Prionospio* sp. and *Pygospio elegans*) dominated the benthic community. These taxa are known to be tolerant to disturbance and are generally the first to colonise disturbed habitats such as ice scours (Conlan et al. 1998). The ostracods *Philomedes* spp. are also rapid colonizers after ice scouring (Kim and Collins, 2021) and were abundant at stations SW-4, SCV-1, SNW-1 and SW-1. A lower proportion of bivalves were observed at stations SW-2 and SW-3 compared to other stations sampled in 2024, which may be a result of the low proportion of fines observed

at these two stations. Marine coastal benthic infaunal communities are influenced by abiotic factors, such as sediment grain size and organic carbon content, water depth, inundation time, and salinity (Eckman 1996; Ricciardi and Bourget 1999; Hyland et al. 2005).

4.5.2 Density and Richness

There was no statistically significant change in either density and richness between Year 1 (2024) for the Capesize monitoring program and existing conditions in 2023, although variability was noted in the datasets. With respect to individual stations, there were noticeable decreases in benthic densities and richness at stations SW-1 and SW-2 on the Western Transect. Density at both of these nearshore stations fluctuated from 2019 to 2023, before notable decreases in 2024 compared to 2023 and previous years, except for 2020 at SW-2 where density was close to zero. Station SW-1 showed a decline in richness every year since 2019, until an increase was observed in 2023, followed by a more prominent decline in 2024. As discussed in Chapter 3.0, SW-1 and SW-2 experienced some level of scouring before 2023 and the proportion of fines remained low in 2024, with no observed rebound. Scouring of sediments was predicted down to 5 cm at SW-2 and down to 50 cm at SW-1 by the Ship Wake and Propeller Wash Assessment for the Capesize vessels (WSP 2023) and as shown in Figure 3-9. The nearshore stations SW-1 and SW-2 are in close proximity to the Ore Dock and are likely impacted by scouring of sediments as predicted by the modelling and FEIS predictions and subsequent addenda. Sediment scouring can potentially lead to changes in benthic composition and assemblages.

Further away from the Ore Dock along the Western Transect and outside of the zone of influence for potential scouring predicted by WSP (2023), a decrease in percent fines at Stations SW-4 (in 2024) and SW-3 (in 2023 and continued to remain low in 2024) go beyond what was predicted in the Ship Wake and Propeller Wash Assessment (WSP 2023). Despite this, the drop in density and richness observed at SW-1 and SW-2 between 2023 and 2024 was not observed at SW-3 and SW-4. Between 2023 and 2024, SW-3 showed a small increase in density and marginal decrease in richness, while station SW-4 showed the inverse with a small decline in density and increase in richness. Benthic communities at stations SW-3 and SW-4 appeared to be more stable than those closer to the Ore Dock along the nearshore transect.

4.5.3 Diversity and Evenness

There were statistically significant increases in both diversity and evenness from 2023 to 2024 for the overall dataset and stations continued to support diverse benthic invertebrate communities. Although the trend at individual stations was inconsistent between years, particularly for evenness, which ranged from increasing more than threefold at stations SW-1 and SW-2 between 2023 and 2024, to decreasing slightly at SW-4 and SCV-2 and increasing at SNW-1 and SW-4. Diversity was variable at individual stations but remained relatively stable at SNW-1 and SW-1 between 2023 and 2024. Station SW-2 and SW-3 showed a small increase in diversity between 2023 and 2024, while SW-4 showed a small decrease. Increased evenness is often associated with a drop in density and may also indicate an adverse effect on the local benthic infaunal community. The variability observed in the benthic composition as well as the performance indicators as seen in previous MEEMP monitoring years may be due to a combination of the existing influence of scouring due to propeller wash from the smaller carriers and natural coastal processes and variations in morphology.

4.6 Conclusions and Recommendations

The 2024 results remain within predictions of the FEIS and subsequent addenda, which forecasted the potential for localized sediment disturbance associated with propeller wash and temporary effects on benthic infaunal community indicators. In 2024 the eight Capesize stations continued to support diverse benthic invertebrate communities, with dominant polychaete taxa but also bivalves and crustaceans. Overall density and richness were not significantly different between Year 1 (2024) and under existing conditions in 2023; however, the benthic infaunal community continued to show variability between stations in 2024 with observed decreases in density and richness from 2023 to 2024 at stations in close proximity to the Ore Dock. These observations are partly supported by changes in the proportion of fines content in the area over time as well as natural variability seen within benthic communities. Scouring effects were previously observed in 2020 at station SW-2 due to propeller wash from smaller ore carriers and tugs. Subsequent monitoring years indicated that the benthic infaunal community at that station later recovered, and that the effects were temporary and localized.

Given that use of larger ore carriers (Baby Cape and Capesize) is expected to continue at Milne Port, Baffinland has committed to a frequency of annual sampling of the Capesize monitoring stations, for a minimum of three years after the initial use of large (Baby Cape and Capesize) ore carriers in fall 2023. As noted for sediment quality in Chapter 3.0, in order to gain a better understanding of potential scouring effects outside of the predicted zone of influence for the Capesize vessels versus influence from natural coastal processes, a consideration would be to extend the 2025 Capesize Vessel sampling program along the West Transect to include SW-5 and SW-6, for a total of ten stations for sediment quality and benthic infauna sampling.

4.7 Closure

We trust this information is sufficient for your needs at this time. Should you have any questions or concerns, please do not hesitate to contact Phil Rouget, on behalf of the undersigned, at +1 250 419 4945.

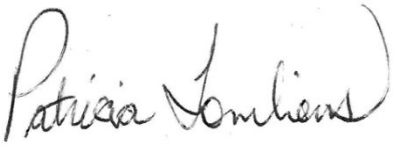
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APPENDIX 4A

Photographs



Photo 1: Benthic sample on 1.0 cm sieve, collected at station SCV-1 on 12 August 2024.



Photo 2: Benthic sample (1/4 field split) on 0.5 mm sieve, collected at station SCV-1 on 12 August 2024.



Photo 3: Benthic sample on 1.0 cm sieve, collected at station SCV-2 on 17 August 2024.



Photo 4: Benthic sample (1/4 field split) on 0.5 mm sieve, collected at station SCV-2 on 17 August 2024.



Photo 5: Benthic sample on 1.0 cm sieve, collected at station SE18-1 on 17 August 2024.



Photo 6: Benthic sample (1/4 field split) on 0.5 mm sieve, collected at station SE18-1 on 17 August 2024.



Photo 7: Benthic sample on 1.0 cm sieve, collected at station SNW-1 on 17 August 2024.



Photo 8: Benthic sample (1/4 field split) on 0.5 mm sieve, collected at station SNW-1 on 17 August 2024.



Photo 9: Benthic sample on 1.0 cm sieve, collected at station SW-1 on 18 August 2024.



Photo 10: Benthic sample (1/4 field split) on 0.5 mm sieve, collected at station SW-1 on 18 August 2024.



Photo 11: Benthic sample on 1.0 cm sieve, collected at station SW-2 on 12 August 2024.



Photo 12: Benthic sample (1/4 field split) on 0.5 mm sieve, collected at station SW-2 on 12 August 2024.



Photo 13: Benthic sample on 1.0 cm sieve, collected at station SW-3 on 10 August 2024.



Photo 14: Benthic sample (1/4 field split) on 0.5 mm sieve, collected at station SW-3 on 10 August 2024.



Photo 15: Benthic sample on 1.0 cm sieve, collected at station SW-4 on 18 August 2024.



Photo 16: Benthic sample (1/4 field split) on 0.5 mm sieve, collected at station SW-4 on 18 August 2024.



Photo 17: Bivalve (*Astarte* sp.) collected at station SCV-1 on 12 August 2024.

APPENDIX 4B

Biologica Environmental Services Ltd. Methods

Marine Benthic Enumeration and Identification Methods
Client: WSP
Project: Baffinland MEEMP
Protocol: EEM

Sample Inventory

Sample arrival: 30-Aug-24
Number of samples: 8
Number of jars: 15
Screen size: 500 µm and 1.0 cm
Biologica project number: mb24-033

The chain of custody documents were checked and approved with the client. Samples were transferred from formalin into 70% ethanol and stained with Rose Bengal to aid in sorting. Each sample was provided a unique identification number and placed in the queue for analysis.

Table 1. Summary of benthic samples processed for WSP Baffinland MEEMP, 2024.

Client Sample ID	Date Sampled	Biologica Sample ID	# of Jars	Field Split	Lab Split	Final Split	Organisms Counted
SCV-1	12-Aug-24	mb24-033-001	1	1/4	1/4A	1/16	167
			1	Whole	Whole	Whole	68
SCV-2	17-Aug-24	mb24-033-002	1	1/4	1/4A	1/16	201
			2	Whole	Whole	Whole	153
SE18-1	17-Aug-24	mb24-033-003	1	1/4	1/4A	1/16	119
			1	Whole	Whole	Whole	90
SNW-1	17-Aug-24	mb24-033-004	1	1/4	1/4A	1/16	295
			1	Whole	Whole	Whole	70
SW-1	18-Aug-24	mb24-033-005	8	1/4	1/4A	1/16	20
			1	Whole	Whole	Whole	2
SW-2	12-Aug-24	mb24-033-006	1	1/4	1/4A	1/16	44
			1	Whole	Whole	Whole	14
SW-3	10-Aug-24	mb24-033-007	1	1/4	1/4A	1/16	152
			1	Whole	Whole	Whole	53
SW-4	18-Aug-24	mb24-033-008	1	1/4	1/4A	1/16	368
			2	Whole	Whole	Whole	151

Sample Processing

Sorting and Subsampling:

All samples were sorted using dissecting microscopes at 10–40x magnification by trained personnel. Microscopic sorting is the only way to ensure >90% of organisms are removed from the debris, which is required by EEM (Environment Canada; Environmental Effects Monitoring) guidelines for marine benthic analyses. To minimize potential sorter bias,

samples were distributed among technicians such that no one person sorted all the replicates of a given sample.

Due to historically the large volumes and high abundances in the samples, samples were fractioned in the field into a 1.0 cm macro fraction and 500 µm fine fraction. This strategy was developed to maximize the detection of large and rare individuals in the macro fraction while accurately enumerating smaller organisms in the fine fraction. The macro 1.0 cm fraction was analyzed whole, with all large organisms (>1.0 cm) removed from the sample, as was done in previous years for this project. In addition, all large debris in this fraction were checked microscopically, including rocks and other large debris to ensure encrusting organisms were accurately enumerated.

Biologica subsampled the fine 500 µm fraction. The 500 µm fraction was split in the field to 1/4. Biologica subsequently split this fraction by a second 1/4 split, for a final 1/16 split. Subsampling was done with a Caton tray (Caton, 1991). The sample was spread evenly over a Caton grid, and sequential random quadrats were selected and sorted until the minimum 1/4 lab split was reached.

Sub-sampling accuracy was assessed by sorting the remaining sample for 10% (n= 4) of all sub-sampled samples and comparing the fractions to one another. Refer to Table 2 for sub-sampling accuracy results.

Sorting QA/QC:

To ensure sorting efficiency was >95%, whole and/or partial sub-samples were re-sorted. Sorting efficiency was calculated using the following equation (where total count = final total number of organisms in sample):

Sorting efficiency = [1−(# of organisms in spot check or re-sort / total organisms)] x 100
*Total organisms includes the original count and the number found from the re-sort

All samples checked must meet or exceed 95% sorting efficiency. Any samples falling below 95% sorting efficiency are re-sorted in their entirety, and additional checks are undertaken as necessary. For quality assurance, QA re-sorts were performed on 10% of samples. Four samples were randomly selected and re-sorted in their entirety. Refer to Table 2 for sorting efficiency results.

Table 2. Summary of sorting QA/QC results for WSP Baffinland MEEMP, 2024.

Client Sample ID	Biologica Sample ID	Sorting Efficiency QA Whole Re-sorts	Sub-sampling accuracy
SCV-1	mb24-033-001		
SCV-2	mb24-033-002	98.54%	
SE18-1	mb24-033-003		
SNW-1	mb24-033-004		
SW-1	mb24-033-005		
SW-2	mb24-033-006		93.12%
SW-3	mb24-033-007		
SW-4	mb24-033-008		

Identification and Invasive Species Detection:

All organisms were identified using a combination of dissecting (10–40x) and compound microscopes (100–1000x) and standard taxonomic keys (see methodological and taxonomic references) to the lowest practicable level (species whenever possible). All specimens were archived in air-tight glass vials with glycerin and 70% ethanol for long-term storage. Taxonomic data were recorded in Biologica's custom database.

During the identification process, taxonomists recorded if any identified taxa were beyond their recorded range and/or potentially introduced (originating from another location) or invasive (both introduced and appearing to proliferate with possible detrimental effects to the ecosystem and/or industry). **No taxa observed were identified as putative invasive taxa**. One genus of interest over the past several years of sampling has been *Marenzelleria.* Multiple specimens were externally verified by DNA analysis by Dr. Vasily Radashevsky from the National Scientific Center of Marine Biology and were confirmed to be *Marenzelleria wireni*. Historical identifications can all be taken to this species identification.

One new taxa to the project was identified and has been referenced if needed for verification.

Reference Collection:

Biologica houses a reference collection of all taxa that have been observed in the Baffinland MEEMP project thus far. Taxa are added to this reference collection yearly. These may be new taxa and/or new stages. Taxa new to the project are sent for external verification. This collection consists of a minimum of one specimen representing each taxon and stage, with five specimens per taxon/stage wherever possible. These specimens were labelled, given a location code, and placed in evaporation-resistant shell dram vials. Approximately 1 mL of glycerin was added to each vial to prevent desiccation.

Data Management and Analysis

All data were recorded in Biologica's custom database. Total abundances were extrapolated for samples split in the field and the lab to represent the abundance from the whole sample. Organism densities were calculated by dividing the total organism abundance (extrapolated if the sample was split) using the area of a Van Veen grab (0.1 m^2), with three composite Van Veen grabs (3 x 0.1m^2) for each sample.

Results were provided to the WSP project manager in Excel spreadsheets via email.

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APPENDIX 4C

Biologica Environmental Services Ltd. Raw Data

biologica

Abbreviations & Definitions

Worksheets:

1. Abbreviations & Definitions	Glossary of terms and outline of report.
2. Data-Matrix	Total abundance data in matrix format, including total taxa count per sample and total abundance per sample.
3. Data-Long	Raw abundance data in long format.
4. QC-QA Report	Results of sorting efficiency.
5. Subsampling Accuracy	Raw subsampling accuracy data based on preliminary abundance counts.
6. Provisional Taxa	Description of unique taxa that are undescribed and assigned internal numbers (e.g., sp. 1, sp.2 etc.)
7. Taxaonomic Updates	Taxonomic updates for historical data considerations and verification purposes.

Life Stages:

A	Adult
Int	Intermediate - has adult features but not of typical reproductive size
J	Juvenile
L	Larvae
N	Nymph
P	Pupa
Col	Colony
Deut	Deutonymph
MEMO	Incidental taxa/fragments not included in data, or whose abundance is not generally captured accurately by 1.0mm screen.
MEIO	Meiofauna
Total Number of Taxa	Number of unique taxa (=species richness), not including higher-order taxa for which there exists a lower-order identification (e.g. not including *Lumbrineris* sp. if there exists *Lumbrineris cruzensis* in the data).
Total Number of Organisms	Total Abundance, not including incidental taxa
URL	Unique, rare, large (>1.0 cm) taxa removed from the whole sample
BDL	Below detection limit. Used for biomass measurements for weights less than 0.00001g.

Biologica Coding

Major Taxonomic Groups:

Taxa Group	Group Code	Taxonomic Group
Annelida	ANHI	Annelida Hirudinea
Annelida	ANOL	Annelida Oligochaeta
Annelida	ANXX	Annelida
Annelida	POER	Polychaeta Errantia
Annelida	POSE	Polychaeta Sedentaria
Annelida	POXX	Polychaeta
Arthropoda	CHAR	Chelicerata Arachnida (Acari)
Arthropoda	CHPY	Chelicerata Pycnogonida
Arthropoda	CHXX	Chelicerata
Arthropoda	CRAM	Crustacea Amphipoda
Arthropoda	CRCI	Crustacea Cirripedia
Arthropoda	CRCL	Crustacea Cladocera
Arthropoda	CRCO	Crustacea Copepoda
Arthropoda	CRCU	Crustacea Cumacea
Arthropoda	CRDE	Crustacea Decapoda
Arthropoda	CRDI	Crustacea Diplostraca
Arthropoda	CREU	Crustacea Euphausiacea
Arthropoda	CRIS	Crustacea Isopoda
Arthropoda	CRLE	Crustacea Leptostraca
Arthropoda	CRMY	Crustacea Mysidacea
Arthropoda	CROS	Crustacea Ostracoda
Arthropoda	CRTA	Crustacea Tanaidacea
Arthropoda	CRXX	Crustacea
Arthropoda	INCM	Insecta Collembola
Arthropoda	INCO	Insecta Coleoptera
Arthropoda	INDI	Insecta Diptera
Arthropoda	INEP	Insecta Ephemeroptera
Arthropoda	INHM	Insecta Hemiptera
Arthropoda	INHY	Insecta Hymenoptera
Arthropoda	INLE	Insecta Lepidoptera
Arthropoda	INMG	Insecta Megaloptera
Arthropoda	INNE	Insecta Neuroptera
Arthropoda	INOD	Insecta Odonata
Arthropoda	INPL	Insecta Plecoptera
Arthropoda	INTH	Insecta Thysanoptera
Arthropoda	INTR	Insecta Tricoptera
Arthropoda	INXX	Insecta
Arthropoda	MYCH	Chilopoda
Arthropoda	MYDI	Diplopoda
Echinodermata	ECAS	Echinodermata Asteroidea
Echinodermata	ECCR	Echinodermata Crinoidea
Echinodermata	ECEC	Echinodermata Echinoidea
Echinodermata	ECHO	Echinodermata Holothuroidea
Echinodermata	ECOP	Echinodermata Ophiuroidea
Miscellaneous	ACAN	Acanthocephala
Miscellaneous	AMPH	Amphibia
Miscellaneous	BRAC	Brachiopoda
Miscellaneous	BRYO	Bryozoa
Miscellaneous	CHAE	Chaetognatha
Miscellaneous	CILI	Ciliophora Ciliophora
Miscellaneous	CNAN	Cnidaria Anthozoa
Miscellaneous	CNHY	Cnidaria Hydrozoa
Miscellaneous	CNSC	Cnidaria Scyphozoa
Miscellaneous	CNXX	Cnidaria
Miscellaneous	CTEN	Ctenophora
Miscellaneous	ENTO	Entoprocta
Miscellaneous	EURA	Echiura
Miscellaneous	FORA	Foraminifera
Miscellaneous	HEMI	Hemichordata
Miscellaneous	KINO	Kinorhyncha
Miscellaneous	NODA	Nemata
Miscellaneous	NTEA	Nemertea
Miscellaneous	PHOR	Phoronida
Miscellaneous	PIXX	Pisces
Miscellaneous	PLTY	Platyhelminthes
Miscellaneous	PORI	Porifera
Miscellaneous	PRIA	Priapulida
Miscellaneous	ROTI	Rotifera
Miscellaneous	SIPN	Sipuncula
Miscellaneous	TARD	Tardigrada
Miscellaneous	URAP	Appendicularia
Miscellaneous	URAS	Ascidiacea
Miscellaneous	URTH	Thaliacea
Mollusca	MOAP	Mollusca Aplacophora
Mollusca	MOBI	Mollusca Bivalvia
Mollusca	MOCE	Mollusca Cephalopoda
Mollusca	MOGA	Mollusca Gastropoda
Mollusca	MOPO	Mollusca Polyplacophora
Mollusca	MOSC	Mollusca Scaphopoda
Mollusca	MOXX	Mollusca

biologica

Total abundance data in matrix format, including total taxa (species richness) for WSP Baffinland MEEMP Benthos, 2024.

Biologica Sample ID										mb24-033-001	mb24-033-002	mb24-033-003	mb24-033-004	mb24-033-005	mb24-033-006	mb24-033-007	mb24-033-008
Client Sample ID										SCV-1	SCV-2	SE18-1	SNW-1	SW-1	SW-2	SW-3	SW-4
Date Sampled										12-Aug-24	17-Aug-24	17-Aug-24	17-Aug-24	18-Aug-24	12-Aug-24	10-Aug-24	18-Aug-24
								Grand Total		Total	Total	Total	Total	Total	Total	Total	Total
taxcode	grpcode	Phylum	Class	Order	Family	Subfamily	Taxon Name	Unique Taxa	Abundance	Abundance	Abundance	Abundance	Abundance	Abundance	Abundance	Abundance	Abundance
ANNE	ANHI	Annelida	Clitellata				Hirudinea indet.	1	16								16
ANNE	POER	Annelida	Polychaeta	Eunicida	Dorvilleidae		Ophryotrocha sp.	1	48					16	32		
ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Lumbrineridae indet.		16								16
ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Scoletoma fragilis	1	16	16							
ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Scoletoma laurentiana	1	16		16						
ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Scoletoma sp.		97				48				49
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	1	995		115	432	144	96	16	144	48
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Microphthalmidae		Microphthalmus sp.	1	16						16		
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nephtyidae		Micronephthys cornuta	1	272	64	32		96				80
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nephtyidae		Nephtys ciliata	1	2				1				1
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereidinae	Nereis zonata	1	2		2						
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Eteoninae	Eteone sp.	1	80				16		32	32	
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Phyllodocinae	Phyllodoce groenlandica	1	33		1	16			16		
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Bylgides promamme	1	16				16				
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Gattyana cirrhosa	1	18		2						16
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Harmothoe sp.	1	1		1						
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe longa	1	532		36	64				240	192
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	1	576				48			208	320
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe sp.		64				48			16	
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sphaerodoridae		Sphaerodoridium minutum	1	16	16							
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Syllidae	Anoplosyllinae	Streptospinigera niuqtuut	1	16				16				
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Syllidae	Exogoninae	Exogone sp.	1	32	16							16
ANNE	POSE	Annelida	Polychaeta	Sabellida	Fabriciidae		Pseudofabricia sp. nr. aberrans	1	16		16						
ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Galathowenia oculata	1	257	48	129		64				16
ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Myriochele heeri	1	48	32			16				
ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Owenia fusiformis	1	157	112	29		16				
ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp.		2		2						
ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp. 1	1	48	16	32						
ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp. 3	1	32						32		
ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Euchone incolor	1	416	32	112	16	96			48	112
ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Sabellinae	Bispira sp.	1	1								1
ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae		Branchiomma sp.	1	1		1						
ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae		Sabellidae indet.		64			16	16			32	
ANNE	POSE	Annelida	Polychaeta	Spionida	Apistobranchidae		Apistobranchus sp.	1	32				16		16		
ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Prionospio sp.	1	818	208	338		240		16		16
ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Pygospio elegans	1	512		368	16				48	80
ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Spio sp.	1	48						48		
ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Spionidae indet.		16						16		
ANNE	POSE	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetinae	Ampharete petersenae	1	112		48	16	32				16
ANNE	POSE	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetinae	Ampharete sp.		16			16					
ANNE	POSE	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetinae	Lysippe labiata	1	32		32						
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Aphelochaeta sp.	1	416	144	32	32	192			16	
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone bathyala		1,264	48	448	240	240	16	16	64	192
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone careyi	1	496		48	64			112	256	16
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone pigmentata	1	48		16						32
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone setosa complex	1	273	80	80	32	16		16	48	1
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone sp.	1	1,856	112	288	64	496	32	32	432	400
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone anasima		32	32							
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Cirratulidae indet.		496	48		128	208			16	96
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Kirkegaardia sp.	1	32								32
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Tharyx sp.	1	176	16	32	96					32
ANNE	POSE	Annelida	Polychaeta	Terebellida	Melinnidae		Melinna sp.	1	16		16						
ANNE	POSE	Annelida	Polychaeta	Terebellida	Pectinariidae		Cistenides granulata	1	69		26	3				33	7
ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Laphania boecki	1	112	16	16	16	48		16		
ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Paramphitrite birulai	1	32			16	16				
ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata	1	8		1						7
ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Polycirrus sp. complex	1	96		48						48
ANNE	POSE	Annelida	Polychaeta	Terebellida	Trichobranchidae		Terebellides sp.	1	243	64	33	1	112		16		17
ANNE	POSE	Annelida	Polychaeta		Capitellidae		Capitella capitata complex	1	112					48	16	32	16
ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.	1	416	16	80	80	48	16	80	48	48
ANNE	POSE	Annelida	Polychaeta		Capitellidae		Notomastus sp.	1	16		16						
ANNE	POSE	Annelida	Polychaeta		Cossuridae		Cossura longocirrata	1	768	208			304		16	64	176
ANNE	POSE	Annelida	Polychaeta		Maldanidae	Euclymeninae	Clymenura polaris	1	48		16					32	
ANNE	POSE	Annelida	Polychaeta		Maldanidae	Euclymeninae	Euclymeninae indet.		96		48		32			16	
ANNE	POSE	Annelida	Polychaeta		Maldanidae	Maldaninae	Maldane sarsi	1	64		48						16
ANNE	POSE	Annelida	Polychaeta		Opheliidae	Opheliinae	Ophelia limacina	1	16			16					
ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Leitoscoloplos acutus	1	48								48
ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Leitoscoloplos sp.		32				32				
ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Scoloplos armiger	1	81			16	16				49
ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Scoloplos sp.		65		17	16	16			16	
ANNE	POSE	Annelida	Polychaeta		Orbiniidae		Orbiniidae indet.		32								32
ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea (Acmira) catherinae	1	32				32				
ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea (Aricidea) minuta	1	512	96	144		32				240
ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea hartmanae	1	80	32			48				
ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea nolani	1	128	32	48		32				16
ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea sp.		48				48				
ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum	1	192	32	16	32	16		16	64	16
ARTH	CHPY	Arthropoda	Pycnogonida				Pycnogonida indet.	1	16						16		
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Corophiidae		Corophiidae indet.	1	48			16				16	16
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Dexaminidae	Prophliantinae	Guernea nordenskioldi	1	272			16	32				224
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Monoculodes sp.	1	16				16				
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Monoculopsis longicornis	1	160							160	
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Monoculopsis sp.		16								16
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Oedicerotidae indet.		64			16					48
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Rostroculodes sp.	1	48							32	16
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Westwoodilla sp.	1	16	16							
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Stenothoidae		Stenothoidae indet.	1	16				16				
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Tryphosidae		Orchomene sp.	1	48							16	32
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Uristidae		Anonyx nugax	1	1								1
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Uristidae		Anonyx sarsi	1	16						16		
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Uristidae		Anonyx sp.		32						32		
ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	1	80			16		48			16
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Brachydiastylis resima	1	16								16
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis goodsiri	1	16			16					
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis rathkei	1	16								16
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis scorpioides	1	112	16			32				64
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis sp.		48							16	32
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Lampropidae		Lampropidae indet.		17		16						1
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Lampropidae		Lamprops fuscatus	1	288							112	176
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Leuconidae		Eudorella truncatula	1	32	16			16				
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Leuconidae		Eudorella sp.		1		1						
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Leuconidae		Leucon nasicoides	1	256	16			32		16		192
ARTH	CRIS	Arthropoda	Malacostraca	Isopoda	Gnathiidae		Gnathiidae indet.	1	16			16					
ARTH	CROS	Arthropoda	Ostracoda	Myodocopida	Philomedidae		Philomedes sp.	1	3,056	448	16	16	672	16		16	1872
ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Akanthophoreidae		Akanthophoreus sp.	1	16				16				
ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Pseudotanaidae		Pseudotanais sp.	1	48				32				16
ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Sphyrapodidae	Pseudosphyrapodinae	Pseudosphyrapus anomalus	1	240	176			64				
ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Typhlotanaidae		Typhlotanaidae indet.		32	32							
ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Typhlotanaidae		Typhlotanais sp.	1	48				48				
ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea			Tanaidacea indet.		16			16					
ECHI	ECEC	Echinodermata	Echinoidea	Camarodonta	Strongylocentrotidae		Strongylocentrotus droebachiensis	1	3				1				2
ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiocten affinis	1	3							1	2
ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura robusta	1	48				32				16
ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura sarsii	1	24	2		3	4	2		5	8
ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura sp.		55				51				4
MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida			Cheilostomatida indet.	1	1		1						
MISC	CNHY	Cnidaria	Hydrozoa	Anthoathecata			Anthoathecata indet.	1	1	1							
MISC	CNHY	Cnidaria	Hydrozoa	Limnomedusae	Monobrachiidae		Monobrachium parasitum	1	36	1		17				16	2
MISC	NTEA	Nemertea	Hoplonemertea				Hoplonemertea indet.	1	16	16							
MISC	NTEA	Nemertea	Palaeonemertea	Archinemertea	Cephalotrichidae		Cephalothrix sp.	1	96	16	16				48	16	
MISC	NTEA	Nemertea	Pilidiophora	Heteronemertea	Lineidae		Lineidae indet.	1	18		1		16				1
MISC	NTEA	Nemertea	Pilidiophora	Heteronemertea			Heteronemertea indet.		1		1						
MISC	NTEA	Nemertea					Nemertea indet.		33		1		16			16	
MISC	PORI	Porifera	Calcarea				Calcarea indet.	1	1								1
MISC	PRIA	Cephalorhyncha	Priapulida	Priapulomorpha	Priapulidae		Priapulus caudatus	1	16			16					
MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	1	259		72	34	17	32	11	33	60
MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Cardiidae	Clinocardiinae	Ciliatocardium ciliatum	1	3		1					1	1
MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Cardiidae	Clinocardiinae	Serripes groenlandicus	1	7		2	2			1	2	
MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma calcarea	1	65	18	27	3	12			1	4
MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma moesta	1	39			19	1			18	1
MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macominae indet.		240		16	16	80			16	112
MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte borealis	1	119	18	19	24	6			23	29
MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui	1	580	80	140	54	69			8	229
MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte sp.		224	32	32	16	64				80
MOLL	MOBI	Mollusca	Bivalvia	Lucinida	Thyasiridae		Thyasiridae indet.	1	256	48	80		48			48	32
MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya sp.		107			53				3	51
MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya truncata	1	8		2				1	5	
MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Crenellinae	Arvella faba	1	1	1							
MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors	1	1								1
MOLL	MOBI	Mollusca	Bivalvia	Nuculanida	Nuculanidae	Nuculaninae	Nuculana minuta	1	64			32					32
MOLL	MOBI	Mollusca	Bivalvia	Nuculanida	Nuculanidae	Nuculaninae	Nuculana pernula	1	34	17			16				1
MOLL	MOBI	Mollusca	Bivalvia	Nuculanida	Yoldiidae		Yoldiidae indet.	1	80	16			64				
MOLL	MOBI	Mollusca	Bivalvia	Nuculida	Nuculidae		Ennucula tenuis	1	608	192	48	96	256				16
MOLL	MOBI	Mollusca	Bivalvia	Pectinida	Propeamussiidae		Similipecten greenlandicus		71	26		4	36		1		4
MOLL	MOBI	Mollusca	Bivalvia				Bivalvia indet.	1	80		32		32				16
MOLL	MOGA	Mollusca	Gastropoda	Cephalaspidea	Cylichnidae		Cylichnidae indet.		16				16				
MOLL	MOGA	Mollusca	Gastropoda	Cephalaspidea	Cylichnidae		Cylichnoides occultus		16				16				
MOLL	MOGA	Mollusca	Gastropoda	Cephalaspidea	Tornatinidae		Acteocina sp.	1	16								16
MOLL	MOGA	Mollusca	Gastropoda	Littorinimorpha	Naticidae	Naticinae	Cryptonatica affinis	1	16		16						
MOLL	MOGA	Mollusca	Gastropoda	Littorinimorpha	Naticidae	Polinicinae	Euspira pallida	1	16			16					
MOLL	MOGA	Mollusca	Gastropoda	Littorinimorpha	Rissoidae		Boreocingula castanea	1	16				16				
MOLL	MOGA	Mollusca	Gastropoda	Neogastropoda	Mangeliidae		Mangeliidae indet.	1	33			17					16
MOLL	MOGA	Mollusca	Gastropoda				Gastropoda indet.	1	48				32				16
							Total Abundance		**22,457**	**2,740**	**3,369**	**1,994**	**4,790**	**322**	**718**	**2,485**	**6,039**
							Total Unique Taxa	**121**		**44**	**54**	**42**	**59**	**9**	**26**	**37**	**70**
							Grab Sampler		**Van Veen**	**Van Veen**	**Van Veen**	**Van Veen**	**Van Veen**	**Van Veen**	**Van Veen**	**Van Veen**	**Van Veen**
							# of Composite Grabs		**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**
							Total Density (Organisms/m^2)		**74,857**	**9,133**	**11,230**	**6,647**	**15,967**	**1,073**	**2,393**	**8,283**	**20,130**
Incidental Taxa:																	
MEMO	MEMO	Arthropoda	Hexanauplia				Copepoda indet. (parasitic)		16	16							
MEMO	MEMO	Arthropoda	Hexanauplia				Copepoda indet. (planktonic)		64							48	16
MEMO	MEMO	Arthropoda	Ostracoda				Ostracoda indet. (meiofaunal)		1,872	48	16	64	176	16	16	96	1440
MEMO	MEMO	Echinodermata	Holothuroidea	Apodida	Myriotrochidae		Myriotrochus rinkii		16				16				
MEMO	MEMO						Egg/egg mass		400	80		16	32		32	64	176
MEMO	MEMO	Nematoda					Nematoda indet.		2,400		272	208	48		48	992	832

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Abundance data in long format for WSP Baffinland MEEMP Benthos, 2024.

Client	Project	Year	Biologica Sample ID	Client Sample ID	Date Sampled	Sampler	Fraction (µm)	Field Split	Lab Split	Final Split	taxcode	grpcode	Phylum	Class	Order	Family	Subfamily	Taxon Name	A	Int	J	Raw Count	Split Multiplier	Total Abundance	Unique Taxa Count	Comments	New identifications
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Scoletoma fragilis	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nephtyidae		Micronephthys cornuta	4			4	16	64	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sphaerodoridae		Sphaerodoridium minutum	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Syllidae	Exogoninae	Exogone sp.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Galathowenia oculata	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Myriochele heeri	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Owenia fusiformis	7			7	16	112	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp. 1	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Euchone incolor	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Prionospio sp.	10	3		13	16	208	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Aphelochaeta sp.	4	5		9	16	144	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone bathyala	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone setosa complex	5			5	16	80	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone sp.		7		7	16	112			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone anasima	2			2	16	32	1	Taxa out of documented geographical range	New to 2024
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Cirratulidae indet.			3	3	16	48			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Tharyx sp.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Laphania boecki			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Trichobranchidae		Terebellides sp.	3		1	4	16	64	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Cossuridae		Cossura longocirrata	13			13	16	208	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea (Aricidea) minuta	6			6	16	96	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea hartmanae	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea nolani	1	1		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum		2		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Westwoodilla sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis scorpioides	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Leuconidae		Eudorella truncatula		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Leuconidae		Leucon nasicoides		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CROS	Arthropoda	Ostracoda	Myodocopida	Philomedidae		Philomedes sp.	9	9	10	28	16	448	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Sphyrapodidae	Pseudosphyrapodinae	Pseudosphyrapus anomalus	7	4		11	16	176	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Typhlotanaidae		Typhlotanaidae indet.	1	1		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Arthropoda	Hexanauplia				Copepoda indet. (parasitic)	1			1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Arthropoda	Ostracoda				Ostracoda indet. (meiofaunal)	3			3	16	48			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO						Egg/egg mass	5			5	16	80			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MISC	NTEA	Nemertea	Hoplonemertea				Hoplonemertea indet.			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MISC	NTEA	Nemertea	Palaeonemertea	Archinemertea	Cephalotrichidae		Cephalothrix sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte borealis			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui		2	2	4	16	64	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte sp.			2	2	16	32			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Lucinida	Thyasiridae		Thyasiridae indet.		3		3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Nuculanida	Nuculanidae	Nuculaninae	Nuculana pernula		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Nuculanida	Yoldiidae		Yoldiidae indet.			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Nuculida	Nuculidae		Ennucula tenuis	1	2	9	12	16	192	1	Shell damaged x4	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura sarsii	1	1		2	1	2	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MISC	CNHY	Cnidaria	Hydrozoa	Anthoathecata			Anthoathecata indet.	1			1	1	1	1	Attached to mollusc	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MISC	CNHY	Cnidaria	Hydrozoa	Limnomedusae	Monobrachiidae		Monobrachium parasitum	1			1	1	1	1	Attached to mollusc	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma calcarea	13	5		18	1	18	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte borealis	1	1		2	1	2			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui	7	9		16	1	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Crenellinae	Arvella faba	1			1	1	1	1	Crenella faba historical synonym	In historical benthic data as Crenella faba
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Nuculanida	Nuculanidae	Nuculaninae	Nuculana pernula	1			1	1	1			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-001	SCV-1	12-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Pectinida	Propeamussiidae		Similipecten greenlandicus	24	2		26	1	26	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Scoletoma laurentiana		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	5	2		7	16	112	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nephtyidae		Micronephthys cornuta	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe longa	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Fabriciidae		Pseudofabricia sp. nr. aberrans	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Galathowenia oculata	8			8	16	128	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Owenia fusiformis	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp. 1	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Euchone incolor	6	1		7	16	112	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Prionospio sp.	20		1	21	16	336	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Pygospio elegans	23			23	16	368	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetinae	Ampharete petersenae	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetinae	Lysippe labiata		2		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Aphelochaeta sp.		2		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone bathyala	13	10	5	28	16	448	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone careyi	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone pigmentata	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone setosa complex	5			5	16	80	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone sp.	1	2	15	18	16	288			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Tharyx sp.		2		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Melinnidae		Melinna sp.			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Pectinariidae		Cistenides granulata	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Laphania boecki	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Polycirrus sp. complex			3	3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Trichobranchidae		Terebellides sp.			2	2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.	5			5	16	80	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Notomastus sp.			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Maldanidae	Euclymeninae	Clymenura polaris	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Maldanidae	Euclymeninae	Euclymeninae indet.			3	3	16	48			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Maldanidae	Maldaninae	Maldane sarsi	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Scoloplos sp.			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea (Aricidea) minuta	9			9	16	144	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea nolani	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Lampropidae		Lampropidae indet.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CROS	Arthropoda	Ostracoda	Myodocopida	Philomedidae		Philomedes sp.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Arthropoda	Ostracoda				Ostracoda indet. (meiofaunal)	1			1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Nematoda					Nematoda indet.	17			17	16	272			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MISC	NTEA	Nemertea	Palaeonemertea	Archinemertea	Cephalotrichidae		Cephalothrix sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica			3	3	16	48	1	Shell degraded	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macominae indet.			1	1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui		2	5	7	16	112	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte sp.			2	2	16	32			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Lucinida	Thyasiridae		Thyasiridae indet.		5		5	16	80	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Nuculida	Nuculidae		Ennucula tenuis		2	1	3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia				Bivalvia indet.			2	2	16	32			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOGA	Mollusca	Gastropoda	Littorinimorpha	Naticidae	Naticinae	Cryptonatica affinis		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	3			3	1	3			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereidinae	Nereis zonata	1	1		2	1	2	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Phyllodocinae	Phyllodoce groenlandica	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Gattyana cirrhosa	2			2	1	2	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Harmothoe sp.	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe longa	4			4	1	4			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Galathowenia oculata	1			1	1	1			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Owenia fusiformis	13			13	1	13			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp.	2			2	1	2			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae		Branchiomma sp.	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Prionospio sp.	2			2	1	2			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Terebellida	Pectinariidae		Cistenides granulata	10			10	1	10			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Terebellida	Trichobranchidae		Terebellides sp.	1			1	1	1			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Scoloplos sp.	1			1	1	1			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Leuconidae		Eudorella sp.	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida			Cheilostomatida indet.	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MISC	NTEA	Nemertea	Pilidiophora	Heteronemertea	Lineidae		Lineidae indet.		1		1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MISC	NTEA	Nemertea	Pilidiophora	Heteronemertea			Heteronemertea indet.		1		1	1	1			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MISC	NTEA	Nemertea					Nemertea indet.	1			1	1	1			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	14	10		24	1	24			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Cardiidae	Clinocardiinae	Ciliatocardium ciliatum	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Cardiidae	Clinocardiinae	Serripes groenlandicus		1	1	2	1	2	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma calcarea	10	17		27	1	27	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte borealis	13	6		19	1	19	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui	4	24		28	1	28			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-002	SCV-2	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya truncata		2		2	1	2	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	21	5	1	27	16	432	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Phyllodocinae	Phyllodoce groenlandica	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe longa	2		2	4	16	64	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Euchone incolor		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae		Sabellidae indet.			1	1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Pygospio elegans	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetinae	Ampharete petersenae	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetinae	Ampharete sp.		1		1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Aphelochaeta sp.	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone bathyala	10	4	1	15	16	240	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone careyi	1	3		4	16	64	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone setosa complex	1	1		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone sp.			4	4	16	64			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Cirratulidae indet.		8		8	16	128			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Tharyx sp.	6			6	16	96	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Laphania boecki	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Paramphitrite birulai	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.	3	2		5	16	80	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Opheliidae	Ophelininae	Ophelia limacina	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Scoloplos armiger	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Scoloplos sp.			1	1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Corophiidae		Corophiidae indet.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Dexaminidae	Prophliantinae	Guernea nordenskioldi	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Oedicerotidae indet.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis goodsiri	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRIS	Arthropoda	Malacostraca	Isopoda	Gnathiidae		Gnathiidae indet.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CROS	Arthropoda	Ostracoda	Myodocopida	Philomedidae		Philomedes sp.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea			Tanaidacea indet.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Arthropoda	Ostracoda				Ostracoda indet. (meiofaunal)	4			4	16	64			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Nematoda					Nematoda indet.	13			13	16	208			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO						Egg/egg mass	1			1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MISC	CNHY	Cnidaria	Hydrozoa	Limnomedusae	Monobrachiidae		Monobrachium parasitum	1			1	16	16	1	Attached to Macoma moesta	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MISC	PRIA	Cephalorhyncha	Priapulida	Priapulomorpha	Priapulidae		Priapulus caudatus			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma moesta		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macominae indet.			1	1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui		2		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte sp.			1	1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya sp.		1	2	3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Nuculanida	Nuculanidae	Nuculaninae	Nuculana minuta		2		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Nuculida	Nuculidae		Ennucula tenuis	1	4	1	6	16	96	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOGA	Mollusca	Gastropoda	Littorinimorpha	Naticidae	Polinicinae	Euspira pallida			1	1	16	16	1	Shell damaged	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOGA	Mollusca	Gastropoda	Neogastropoda	Mangeliidae		Mangeliidae indet.			1	1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Terebellida	Pectinariidae		Cistenides granulata	3			3	1	3	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Terebellida	Trichobranchidae		Terebellides sp.	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura sarsii	1	2		3	1	3	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MISC	CNHY	Cnidaria	Hydrozoa	Limnomedusae	Monobrachiidae		Monobrachium parasitum	1			1	1	1		Attached to mollusc	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	9	9		18	1	18			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Cardiidae	Clinocardiinae	Serripes groenlandicus		2		2	1	2	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma calcarea	3			3	1	3	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma moesta	3			3	1	3			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte borealis	22	2		24	1	24	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui	10	12		22	1	22			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya sp.	3	2		5	1	5			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Pectinida	Propeamussiidae		Similipecten greenlandicus	4			4	1	4	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-003	SE18-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOGA	Mollusca	Gastropoda	Neogastropoda	Mangeliidae		Mangeliidae indet.	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Scoletoma sp.			3	3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	5	2	2	9	16	144	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nephtyidae		Micronephthys cornuta	6			6	16	96	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Eteoninae	Eteone sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Bylgides promamme		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe sp.	3			3	16	48			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Syllidae	Anoplosyllinae	Streptospinigera niuqtuut	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Galathowenia oculata	2		2	4	16	64	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Myriochele heeri	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Owenia fusiformis	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Euchone incolor	6			6	16	96	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae		Sabellidae indet.			1	1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Spionida	Apistobranchidae		Apistobranchus sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Prionospio sp.	14		1	15	16	240	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetinae	Ampharete petersenae	1	1		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Aphelochaeta sp.	2	9	1	12	16	192	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone bathyala	6	5	4	15	16	240	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone setosa complex	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone sp.	2	8	21	31	16	496			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Cirratulidae indet.	1	3	9	13	16	208			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Laphania boecki		1	2	3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Paramphitrite birulai	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Trichobranchidae		Terebellides sp.	3	3	1	7	16	112	1	x1A with parasitic copepod	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.	1	1	1	3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Cossuridae		Cossura longocirrata	19			19	16	304	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Maldanidae	Euclymeninae	Euclymeninae indet.	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Leitoscoloplos sp.			2	2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Scoloplos armiger	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Scoloplos sp.			1	1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea (Acmira) catherinae	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea (Aricidea) minuta	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea hartmanae	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea nolani	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea sp.	1	2		3	16	48			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Dexaminidae	Prophliantinae	Guernea nordenskioldi	1	1		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Monoculodes sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Stenothoidae		Stenothoidae indet.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis scorpioides	1	1		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Leuconidae		Eudorella truncatula	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Leuconidae		Leucon nasicoides	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CROS	Arthropoda	Ostracoda	Myodocopida	Philomedidae		Philomedes sp.	12	20	10	42	16	672	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Akanthophoreidae		Akanthophoreus sp.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Pseudotanaidae		Pseudotanais sp.	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Sphyrapodidae	Pseudosphyrapodinae	Pseudosphyrapus anomalus	2		2	4	16	64	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Typhlotanaidae		Typhlotanais sp.	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura robusta		2		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura sp.		3		3	16	48		Degraded	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Arthropoda	Ostracoda				Ostracoda indet. (meiofaunal)	11			11	16	176			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Echinodermata	Holothuroidea	Apodida	Myriotrochidae		Myriotrochus rinkii	1			1	16	16	1	Fragmented, posterioir only	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Nematoda					Nematoda indet.	3			3	16	48			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO						Egg/egg mass	2			2	16	32			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MISC	NTEA	Nemertea	Pilidiophora	Heteronemertea	Lineidae		Lineidae indet.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MISC	NTEA	Nemertea					Nemertea indet.		1		1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macominae indet.			5	5	16	80			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui		1	2	3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte sp.			4	4	16	64			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Lucinida	Thyasiridae		Thyasiridae indet.		3		3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Nuculanida	Nuculanidae	Nuculaninae	Nuculana pernula	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Nuculanida	Yoldiidae		Yoldiidae indet.			4	4	16	64	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Nuculida	Nuculidae		Ennucula tenuis		1	15	16	16	256	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Pectinida	Propeamussiidae		Similipecten greenlandicus			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia				Bivalvia indet.			2	2	16	32			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOGA	Mollusca	Gastropoda	Cephalaspidea	Cylichnidae		Cylichnidae indet.	1			1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOGA	Mollusca	Gastropoda	Cephalaspidea	Cylichnidae		Cylichnoides occultus	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOGA	Mollusca	Gastropoda	Littorinimorpha	Rissoidae		Boreocingula castanea	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOGA	Mollusca	Gastropoda				Gastropoda indet.			2	2	16	32		Shell damaged	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nephtyidae		Nephtys ciliata	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ECHI	ECEC	Echinodermata	Echinoidea	Camarodonta	Strongylocentrotidae		Strongylocentrotus droebachiensis		1		1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura sarsii		4		4	1	4	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura sp.		3		3	1	3		Damaged	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica		1		1	1	1			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma calcarea	8	4		12	1	12	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma moesta	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte borealis	2	4		6	1	6	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui	10	11		21	1	21			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-004	SNW-1	17-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Pectinida	Propeamussiidae		Similipecten greenlandicus	16	4		20	1	20			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-005	SW-1	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Eunicida	Dorvilleidae		Ophryotrocha sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-005	SW-1	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	4	2		6	16	96	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-005	SW-1	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone bathyala	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-005	SW-1	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone sp.	1	1		2	16	32			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-005	SW-1	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Capitella capitata complex			3	3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-005	SW-1	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-005	SW-1	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.			3	3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-005	SW-1	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CROS	Arthropoda	Ostracoda	Myodocopida	Philomedidae		Philomedes sp.			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-005	SW-1	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Arthropoda	Ostracoda				Ostracoda indet. (meiofaunal)	1			1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-005	SW-1	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica			2	2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-005	SW-1	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura sarsii	2			2	1	2	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Eunicida	Dorvilleidae		Ophryotrocha sp.	1	1		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Microphthalmidae		Microphthalmus sp.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Eteoninae	Eteone sp.	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Phyllodocinae	Phyllodoce groenlandica	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp. 3	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Spionida	Apistobranchidae		Apistobranchus sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Prionospio sp.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Spio sp.	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Spionidae indet.			1	1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone bathyala	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone careyi	7			7	16	112	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone setosa complex	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone sp.	1	1		2	16	32			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Laphania boecki		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Trichobranchidae		Terebellides sp.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Capitella capitata complex			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.		5		5	16	80	1		In historical benthic data

WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Cossuridae		Cossura longocirrata	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CHPY	Arthropoda	Pycnogonida				Pycnogonida indet.			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Uristidae		Anonyx sarsi		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Uristidae		Anonyx sp.			2	2	16	32			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Leuconidae		Leucon nasicoides	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Arthropoda	Ostracoda				Ostracoda indet. (meiofaunal)	1			1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Nematoda					Nematoda indet.	3			3	16	48			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO						Egg/egg mass	2			2	16	32			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	500	1/4	1/4	1/16	MISC	NTEA	Nemertea	Palaeonemertea	Archinemertea	Cephalotrichidae		Cephalothrix sp.		3		3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica		11		11	1	11	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Cardiidae	Clinocardiinae	Serripes groenlandicus		1		1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya truncata	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-006	SW-2	12-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Pectinida	Propeamussiidae		Similipecten greenlandicus	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	8	1		9	16	144	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Eteoninae	Eteone sp.	1	1		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe longa	15			15	16	240	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	13			13	16	208	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe sp.			1	1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Euchone incolor	2	1		3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae		Sabellidae indet.			2	2	16	32			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Pygospio elegans	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Aphelochaeta sp.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone bathyala	3		1	4	16	64	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone careyi	11	5		16	16	256	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone setosa complex	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone sp.			27	27	16	432			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Cirratulidae indet.			1	1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Pectinariidae		Cistenides granulata	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Capitella capitata complex	1		1	2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.		2	1	3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Cossuridae		Cossura longocirrata	4			4	16	64	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Maldanidae	Euclymeninae	Clymenura polaris	1	1		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Maldanidae	Euclymeninae	Euclymeninae indet.		1		1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Scoloplos sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum		4		4	16	64	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Corophiidae		Corophiidae indet.			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Monoculopsis longicornis	1	9		10	16	160	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Rostroculodes sp.	2			2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Tryphosidae		Orchomene sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Lampropidae		Lamprops fuscatus	4	3		7	16	112	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CROS	Arthropoda	Ostracoda	Myodocopida	Philomedidae		Philomedes sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Arthropoda	Hexanauplia				Copepoda indet. (planktonic)	3			3	16	48			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Arthropoda	Ostracoda				Ostracoda indet. (meiofaunal)	6			6	16	96			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Nematoda					Nematoda indet.	62			62	16	992			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO						Egg/egg mass	4			4	16	64			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	MISC	CNHY	Cnidaria	Hydrozoa	Limnomedusae	Monobrachiidae		Monobrachium parasitum	1			1	16	16	1	Attached to Macoma moesta	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	MISC	NTEA	Nemertea	Palaeonemertea	Archinemertea	Cephalotrichidae		Cephalothrix sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	MISC	NTEA	Nemertea					Nemertea indet.		1		1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma moesta			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macominae indet.			1	1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte borealis			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Lucinida	Thyasiridae		Thyasiridae indet.		3		3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Terebellida	Pectinariidae		Cistenides granulata	1			1	1	1			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiocten affinis		1		1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura sarsii	4	1		5	1	5	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	8	9		17	1	17			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Cardiidae	Clinocardiinae	Ciliatocardium ciliatum	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Cardiidae	Clinocardiinae	Serripes groenlandicus		1	1	2	1	2	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma calcarea		1		1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma moesta	2			2	1	2			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte borealis	6	1		7	1	7			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui		8		8	1	8	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya sp.		3		3	1	3			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-007	SW-3	10-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya truncata		5		5	1	5	1	Shell damaged (x2)	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	ANHI	Annelida	Clitellata				Hirudinea indet.	1			1	16	16	1	Damaged	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Lumbrineridae indet.			1	1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Scoletoma sp.		2	1	3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nephtyidae		Micronephthys cornuta	5			5	16	80	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Gattyana cirrhosa	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe longa	10		2	12	16	192	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	18	2		20	16	320	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Syllidae	Exogoninae	Exogone sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Galathowenia oculata	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Euchone incolor	4	2	1	7	16	112	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Prionospio sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Pygospio elegans	5			5	16	80	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetinae	Ampharete petersenae	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone bathyala	5	5	2	12	16	192	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone careyi	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone pigmentata	1	1		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone sp.	3	4	18	25	16	400			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Cirratulidae indet.			6	6	16	96			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Kirkegaardia sp.			2	2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Tharyx sp.		2		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Polycirrus sp. complex			3	3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta	Terebellida	Trichobranchidae		Terebellides sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Capitella capitata complex		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.	1	2		3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Cossuridae		Cossura longocirrata	9	2		11	16	176	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Maldanidae	Maldaninae	Maldane sarsi	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Leitoscoloplos acutus	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Scoloplos armiger	3			3	16	48	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Orbiniidae		Orbiniidae indet.			2	2	16	32			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea (Aricidea) minuta	14		1	15	16	240	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea nolani	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Corophiidae		Corophiidae indet.			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Dexaminidae	Prophliantinae	Guernea nordenskioldi	11	3		14	16	224	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Monoculopsis sp.			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Oedicerotidae indet.			3	3	16	48			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Rostroculodes sp.	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Tryphosidae		Orchomene sp.		2		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Brachydiastylis resima		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis rathkei	1			1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis scorpioides	2	1	1	4	16	64	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis sp.		2		2	16	32			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Lampropidae		Lamprops fuscatus	10	1		11	16	176	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Leuconidae		Leucon nasicoides	7	5		12	16	192	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CROS	Arthropoda	Ostracoda	Myodocopida	Philomedidae		Philomedes sp.	50	41	26	117	16	1,872	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Pseudotanaidae		Pseudotanais sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura robusta		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Arthropoda	Hexanauplia				Copepoda indet. (planktonic)	1			1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Arthropoda	Ostracoda				Ostracoda indet. (meiofaunal)	90			90	16	1,440			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO	Nematoda					Nematoda indet.	52			52	16	832			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MEMO	MEMO						Egg/egg mass	11			11	16	176			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica			2	2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macominae indet.			7	7	16	112			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui		7	5	12	16	192	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte sp.			5	5	16	80			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Lucinida	Thyasiridae		Thyasiridae indet.		2		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya sp.			3	3	16	48			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Nuculanida	Nuculanidae	Nuculaninae	Nuculana minuta		2		2	16	32	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia	Nuculida	Nuculidae		Ennucula tenuis			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOBI	Mollusca	Bivalvia				Bivalvia indet.			1	1	16	16		Shell damaged; possibly Macominae	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOGA	Mollusca	Gastropoda	Cephalaspidea	Tornatinidae		Acteocina sp.		1		1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOGA	Mollusca	Gastropoda	Neogastropoda	Mangeliidae		Mangeliidae indet.			1	1	16	16	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	500	1/4	1/4	1/16	MOLL	MOGA	Mollusca	Gastropoda				Gastropoda indet.			1	1	16	16			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Scoletoma sp.	1			1	1	1			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nephtyidae		Nephtys ciliata	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Sabellinae	Bispira sp.			1	1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone setosa complex	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Terebellida	Pectinariidae		Cistenides granulata	7			7	1	7	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata	6	1		7	1	7	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta	Terebellida	Trichobranchidae		Terebellides sp.	1			1	1	1			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Scoloplos armiger	1			1	1	1			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Uristidae		Anonyx nugax	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Lampropidae		Lampropidae indet.	1			1	1	1			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ECHI	ECEC	Echinodermata	Echinoidea	Camarodonta	Strongylocentrotidae		Strongylocentrotus droebachiensis		2		2	1	2	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiocten affinis		2		2	1	2	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura sarsii		8		8	1	8	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura sp.		4		4	1	4			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MISC	CNHY	Cnidaria	Hydrozoa	Limnomedusae	Monobrachiidae		Monobrachium parasitum	2			2	1	2	1	Attached to mollusc	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MISC	NTEA	Nemertea	Pilidiophora	Heteronemertea	Lineidae		Lineidae indet.		1		1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MISC	PORI	Porifera	Calcarea				Calcarea indet.	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	15	13		28	1	28			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Cardiidae	Clinocardiinae	Ciliatocardium ciliatum		1		1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma calcarea	2	2		4	1	4	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma moesta	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte borealis	16	13		29	1	29	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui	6	31		37	1	37			In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya sp.		2	1	3	1	3	1	Shell damaged (x2)	In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Nuculanida	Nuculanidae	Nuculaninae	Nuculana pernula	1			1	1	1	1		In historical benthic data
WSP	Baffinland MEEMP	2024	mb24-033-008	SW-4	18-Aug-24	Van Veen	10,000	Whole	Whole	Whole	MOLL	MOBI	Mollusca	Bivalvia	Pectinida	Propeamussiidae		Similipecten greenlandicus	4			4	1	4	1		In historical benthic data

biologica

Benthic report of sorting efficiency quality control/quality assurance and subsampling accuracy for WSP Baffinland MEEMP Benthos, 2024.

Biologica Sample ID	Client Sample ID	Sorting Efficiency QA: Random whole re-sorts	Subsampling Accuracy
mb24-033-001	SCV-1		
mb24-033-002	SCV-2	98.54%	
mb24-033-003	SE18-1		
mb24-033-004	SNW-1		
mb24-033-005	SW-1		
mb24-033-006	SW-2		93.12%
mb24-033-007	SW-3		
mb24-033-008	SW-4		
	Average	**98.54%**	**93.12%**

Quality Assurance/Control

Sorting efficiency: [(total count – organisms recovered in spot check and/or re-sort) / total count] x 100%

biologica

Benthic report of raw subsampling accuracy data based on preliminary abundance counts for WSP Baffinland MEEMP Benthos, 2024.

Client Sample ID	Biologica Sample ID	Subsample	Split	Ann	Arth	Echi	Moll	Other	Total	Predicted #	Predicted - Actual	% Difference from Actual	Absolute Difference	Mean Error	Subsampling Accuracy
SCV-2	mb24-033-002	Whole	1/4A	166	2		25	10	203	812	56	7.4	7.4		
			1/4B	156	8		28	6	198	792	36	4.8	4.8		
			1/4C	109	7		42	5	163	652	-104	-13.8	13.8		
			1/4D	157	9		15	11	192	768	12	1.6	1.6		
			Total	**588**	**26**	**0**	**110**	**32**	**756**					**6.88**	**93.12**

biologica

Description of unique taxa that are undescribed and assigned internal numbers (e.g., sp. 1, sp. 2 etc.) for WSP Baffinland MEEMP Benthos, 2024.

taxcode	grpcode	TaxonName	Morphological Description	Note
ANNE	POSE	Dialychone sp. 1	Methyl Green staining pattern is similar to Paradialychone harrisae observed in California, but has ventral cleft present on collar which is lacking in California specimens.	Present historically
ANNE	POSE	Dialychone sp. 2	There is a well-defined circular unstained area in the middle of the ventral collar. There is no ventral cleft present. Likely not described.	Present historically
ANNE	POSE	Dialychone sp. 3	Similar to Chone duneri, with a simple depression on posterior. Thoracic chaetae with long macron, prostomium not covered, with oval shaped unstained area on collar. Posterior segments with a reddish brown pigmentation in a striped pattern.	Present historically
ANNE	POSE	Sabellidae sp. 2	Specimens do not have companion chaetae. Eyespots present from setiger 4. Collar similar to Parasabella pallida.	Present historically
ANNE	POSE	Sabellidae sp. 3	cf Chone, but has only capillary setae on the thorax. There is a semicircular unstained section on the collar (Methyl Green). Does not appear to be described in literature.	Present historically
ANNE	POSE	Sabellidae sp. 4	Specimens with rectangular staining pattern on the ventral collar. Thorax has long handled setae, with no white glandular ring, ventral cleft present, and a lateral and dorsal incision on collar.	Present historically
ANNE	POSE	Euchone sp. 1	Staining pattern on abdominal segments similar to Euchone analis and with a rectangular glandular area on each side and on the anterior and posterior portion of each segment. Both dorsal and ventral sides of the collar have a large divergent lobe, and there is narrow white glandular area beneath collar on the ventral side.	Present historically
ANNE	POSE	Chaetozone anasima	Taxa out of documented geographical range. Verification needed. Initially identified in 2024 as Chaetozone sp. 1.	New in 2024

biologica

Taxonomic updates for historical data considerations and verification purposes for WSP Baffinland MEEMP Benthos, 2024.

Year	Taxon	Biologica Comment	Referenced specimens
2021	Marenzelleria sp.	Identification updated to Marenzelleria wireni (Vasily Radashevsky (2021))	Speciemens referenced
2020	Marenzelleria viridis	Verified and agreed in 2019 by U. Laval. - Identification updated to Marenzelleria wireni (Vasily Radashevsky (2021))	Additional specimens referenced in 2020
2020	Caudofoveata indet.	Name change. Previously Aplacophora indet.	
2020	Amphitrite cirrata	ID corrected from historical ID of Neoamphitrite affinis	Speciemens referenced
2020	Sosane wireni	Historically Sosane sp. nr. wireni. Verified and agreed to Sosane wireni by the University of Laval in 2019.	
2020	Pholoe longa	Historically Pholoe minuta. Pholoe longa - With facial tubercles, bare middorsum, unpigmented elytra, relatively large species. Located along the west coast of Greenland; Canada, in Bay of Fundy, Hudson Bay, and Resolute Bay , based on molecular data (MEIßNER).	Speciemens referenced from 2017, 2018, 2019 and 2020
2020	Pholoe minuta	Historically Pholoe tecta. Pholoe minuta - No facial tubercles, dorsum covered, pigmented elytra, smaller species than Pholoe longa.	Speciemens referenced from 2017, 2018, 2019 and 2020
2023	Aricidea (Aricidea) minuta	Previously Aricidea minuta	
2023	Golfingia sp.	Taxcode change from MISC to ANNE	
2023	Nephasoma sp.	Taxcode change from MISC to ANNE	
2023	Golfingiidae indet.	Taxcode change from MISC to ANNE	
2023	Proclea graffii	Previously mispelled as Proclea grafi	
2023	Scoletoma laurentiana	Previously Scoletoma impatiens	
2023	Sphaerodoridium minutum	Previously Sphaerodoropsis minutum and Sphaerodoropsis minuta	

APPENDIX 4D

Summary Statistics

Year	Station	Total Density (org/m^2)	Richness (taxa/station)	Simpson's Diversity Index	Simpson's Evenness Index	Relative abundance (%)				
						Polychaeta	Bivalvia	Ostracoda	Malacostraca	Other
2024	SCV-1	9,130	45	0.93	0.34	56	16	16	10	1
	SCV-2	11,228	55	0.93	0.28	84	14	0	0	1
	SE18-1	6,640	43	0.90	0.24	72	18	1	5	4
	SNW-1	16,013	61	0.94	0.27	61	15	14	6	4
	SW-1	1,073	9	0.81	0.59	70	10	5	0	16
	SW-2	2,389	26	0.92	0.51	80	2	0	9	9
	SW-3	8,279	37	0.93	0.39	77	6	1	14	2
	SW-4	20,121	71	0.86	0.10	42	11	31	14	2
	Mean	**9,359**	**43**	**0.90**	**0.34**	**68**	**11**	**9**	**7**	**5**
	Median	**8,705**	**44**	**0.93**	**0.31**	**71**	**13**	**3**	**8**	**3**
	Minimum	**1,073**	**9**	**0.81**	**0.10**	**42**	**2**	**0**	**0**	**1**
	Maximum	**20,121**	**71**	**0.94**	**0.59**	**84**	**18**	**31**	**14**	**16**
	Count	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
	SD	**6,430**	**20**	**0.05**	**0.16**	**14**	**5**	**11**	**6**	**5**
	SE	**2,273**	**7**	**0.02**	**0.06**	**5**	**2**	**4**	**2**	**2**
2023	SCV-1	11,865	53	0.92	0.23	55	16	14	13	2
	SCV-2	10,687	46	0.93	0.3	76	4	6	12	1
	SE18-1	9,562	39	0.8	0.13	78	2	6	11	4
	SNW-1	10,723	57	0.91	0.20	45	19	18	12	6
	SW-1	10,255	38	0.81	0.14	78	0	5	10	7
	SW-2	23,756	51	0.77	0.09	90	0	2	2	4
	SW-3	6,224	39	0.86	0.18	84	0	4	9	3
	SW-4	23,622	61	0.91	0.18	56	20	13	9	2
	Mean	**13,337**	**48**	**0.86**	**0.18**	**70**	**8**	**9**	**10**	**4**
	Median	**10,705**	**49**	**0.88**	**0.18**	**77**	**3**	**6**	**11**	**4**
	Minimum	**6,224**	**38**	**0.77**	**0.09**	**45**	**0**	**2**	**2**	**1**
	Maximum	**23,756**	**61**	**0.93**	**0.30**	**90**	**20**	**18**	**13**	**7**
	Count	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
	SD	**6,598**	**9**	**0.06**	**0.07**	**16**	**9**	**6**	**3**	**2**
	SE	**2,333**	**3**	**0.02**	**0.02**	**6**	**3**	**2**	**1**	**1**

APPENDIX 4E

2023-2024 Benthic Community Indicator Plots

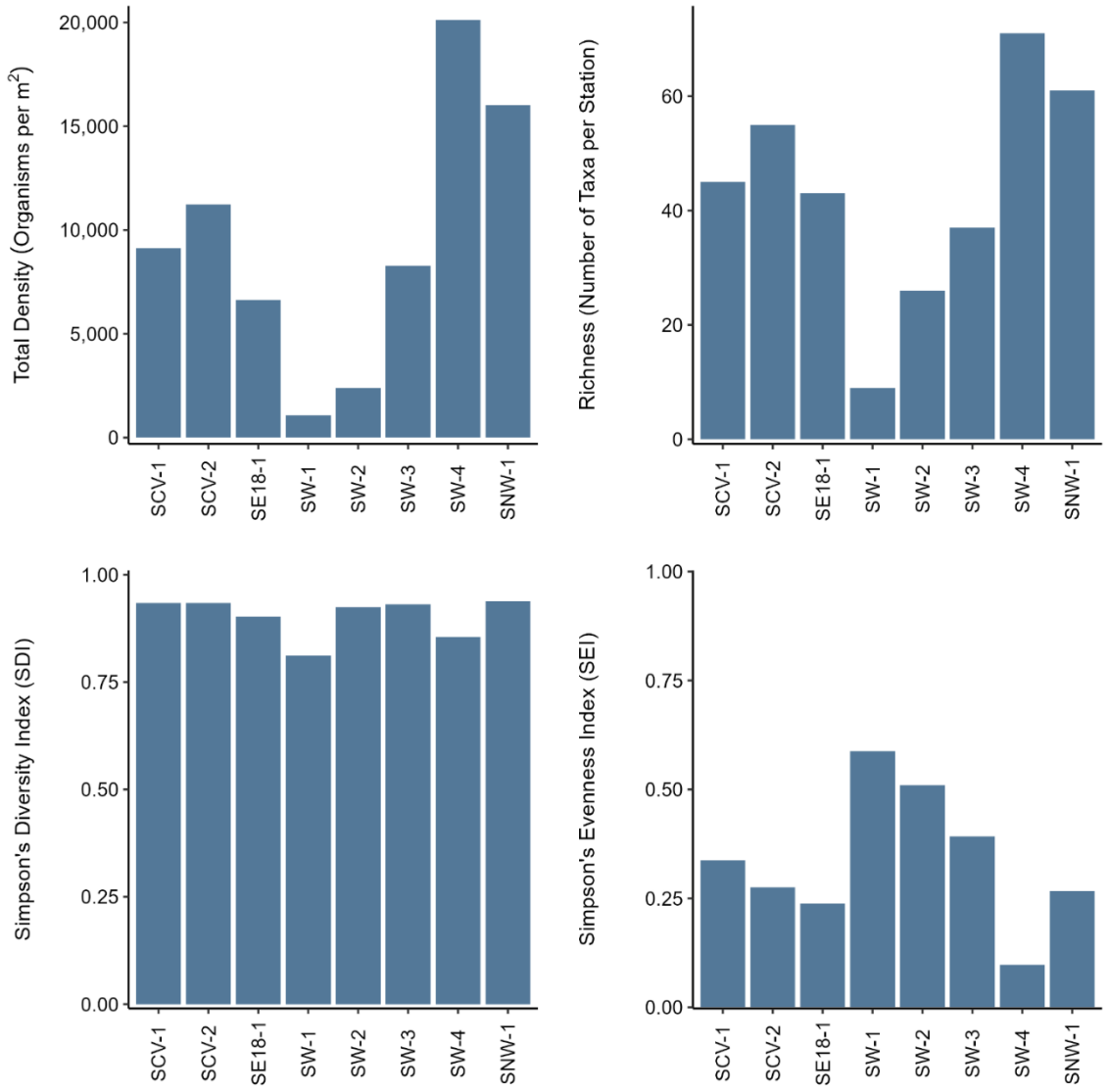


Figure 1: Community Endpoints of Benthic Infauna from Capesize Vessel Stations Near the Ore Dock Area, Milne Port, 2024.

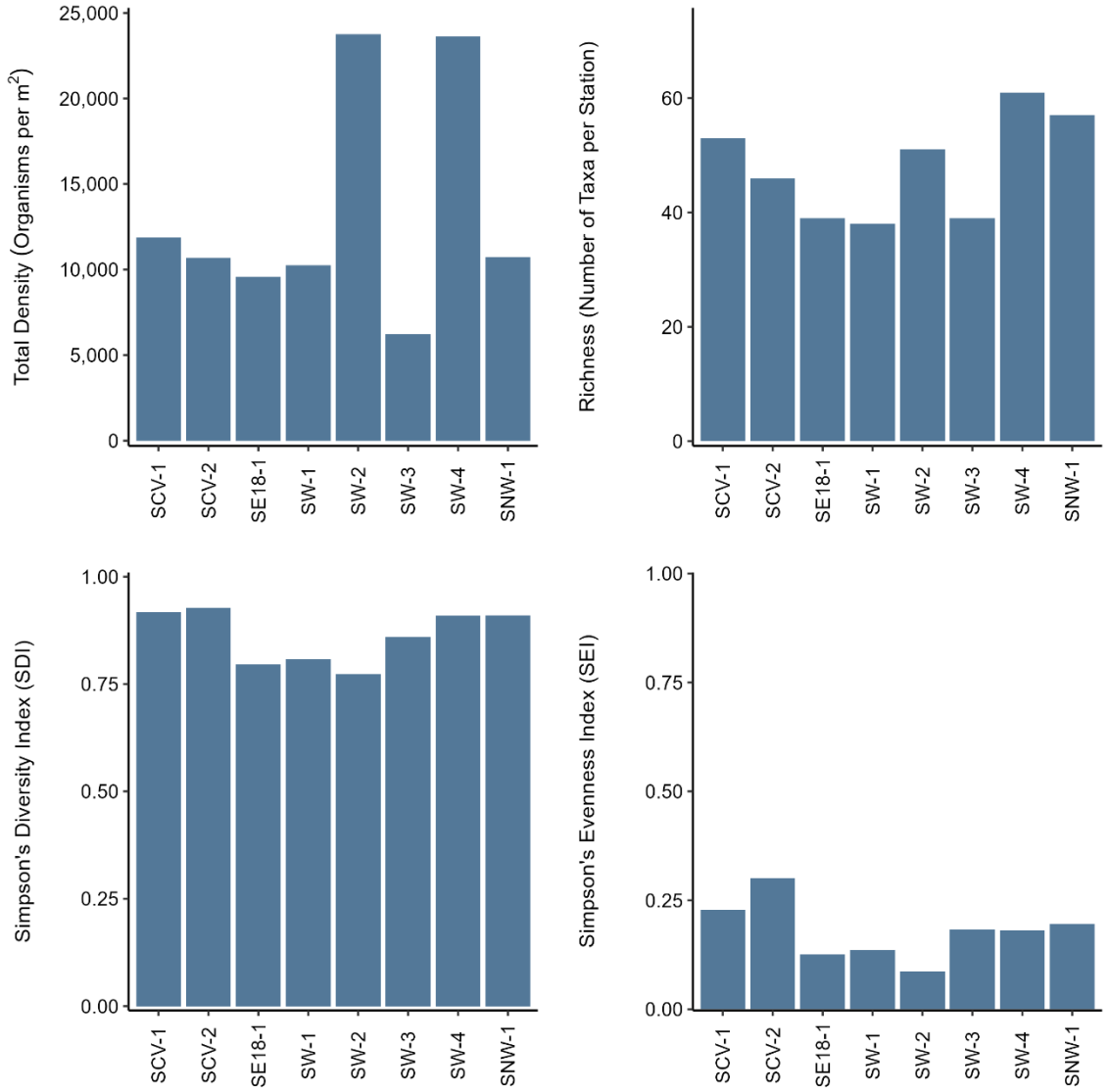


Figure 2: Community Endpoints of Benthic Infauna from Capesize Vessel Stations Near the Ore Dock Area, Milne Port, 2023.

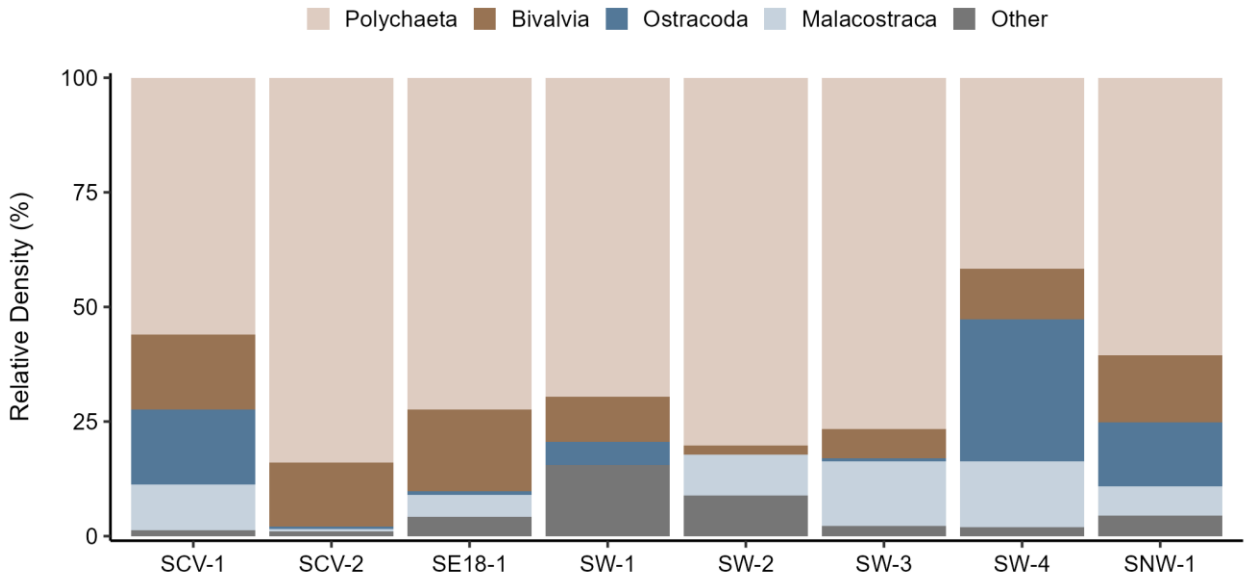


Figure 3: Relative Density of Major Benthic Infauna Taxonomic Groups from Capesize Vessel Stations Near the Ore Dock Area, Milne Port, 2024.

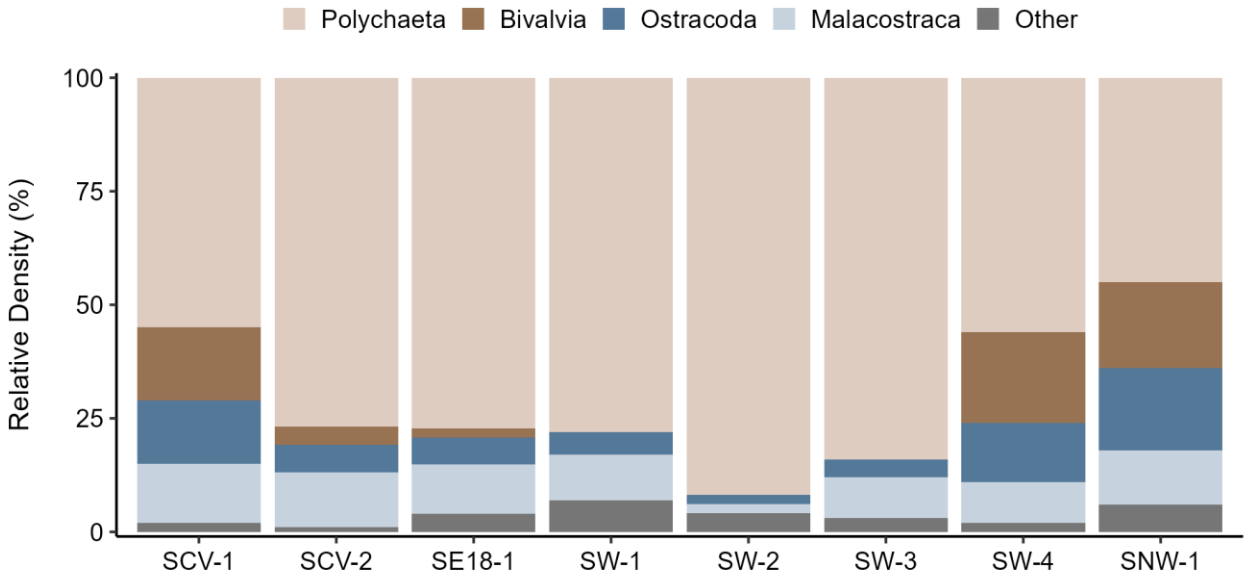


Figure 4: Relative Density of Major Benthic Infauna Taxonomic Groups from Capesize Vessel Stations Near the Ore Dock Area, Milne Port, 2023.

APPENDIX 4F

Power Analysis

POWER ANALYSIS - METHODS

A Type I error is concluding there is a significant effect when none exists (i.e., a false positive). Alpha (α) is the probability of committing a Type I error. A Type II error is the probability of concluding there is no significant effect when there is a real effect of some specified magnitude (i.e., a false negative). Beta (β) is the probability of committing a Type II error. The power of a statistical test (1 - β) is the probability of detecting a real effect. In this analysis, the Type I error-rate (α), also referred to as the significance level, was set to 0.05. The desired minimum statistical power was 80%, which corresponds to a type II error-rate of 0.2. Power analyses were conducted to assess the power of statistical tests under multiple effect sizes. For each model, a set of effect sizes was created, based on preliminary power analyses, so that power >80% was achieved at the largest absolute values of effect sizes, but also so that power is assessed at a range of effect sizes. Both negative and positive effect sizes were used, to assess the power of detecting either a reduction or an increase in values of the response variables. Since the analysis focused on assessment of changes to statistical power at different effect sizes, the power analysis used the observed samples sizes from the collected data.

Data Simulation following Effect Size Application

The power to detect statistically significant effects was estimated using residual bootstrapping in R v. 4.4.2 (R 2024), following the approach of Fox and Weisberg (2018). The general approach was to simulate data based on the model selected for interpretation, the observed sample size, and the residuals, and re-run the models that were used for the original analysis using the simulated data. The data simulation and analysis were repeated 5,000 times, and the proportion of repetitions where the *P*-values of interest were significant ($P<0.05$) was interpreted as the statistical power of the test.

To produce simulated data, the original model was used to predict values of the response variable. The predicted values were then adjusted according to the effect size, depending on the analysis (see below for details). The simulated data were then analyzed using the same model structure as the original analysis. Effect sizes and statistical tests were applied differently to different models, as detailed below.

Effect Sizes

The power to detect statistically significant effects was estimated using residual bootstrapping in R v. 4.4.2 (R 2024), following the approach of Fox and Weisberg (2018). The general approach was to simulate data based on the model selected for interpretation, the observed sample size, and the residuals, and re-run the models that were used for the original analysis using the simulated data. The data simulation and analysis were repeated 5,000 times, and the proportion of repetitions where the *P*-values of interest were significant ($P<0.05$) was interpreted as the statistical power of the test.

To produce simulated data, the original model was used to predict values of the response variable. The predicted values were then adjusted according to the effect size, depending on the analysis (see below for details). The simulated data were then analyzed using the same model structure as the original analysis. Effect sizes and statistical tests were applied differently to different models, as detailed below.

In this power analysis, the question of interest was the models' power to detect a difference between 2023 and 2024, across all sampled stations. To assess the power to detect between-year differences, the effect size was applied relative to 2023 data estimated values. This allowed assessing what effect size, relative to the previous sampling year, the model would be able to identify. This simulated dataset was analyzed using the models from the original analysis in the main report. The application of the effect sizes was performed on the odds scale for SDI and SEI data and as proportion for density (i.e., abundance)

and richness data. The application of the effect sizes in this manner was required to avoid impossible values (such as negative values for all the response variables or values >1 for SDI and SEI). The application of the effect sizes on the odds scale (or the proportion scale for density and richness) means that the result of the applied effect size depends on both the effect size and the baseline (2023) values. For example, the baseline (2023) SDI value (holding the covariate of depth at mean value) was high (0.89; Figure 3F-1) and close to the maximum possible value of 1.0. Therefore, even a large increase (effect size of 100%) only resulted in a change of 0.052 in SDI value, while a 50% decrease resulted in a change of -0.88.

The significance of the year effect was assessed and the *P*-value for the model was retained. For each effect size, the proportion of repetitions with *P*-values less than 0.05 at each transect was interpreted as the statistical power to detect a year effect. This analysis assessed how much higher or lower the 2024 values would have to be to detect a significant difference relative to 2023.

Power curves were produced, showing statistical power as a function of effect size in percentages. Horizontal lines were added to visualize statistical power values of 0.8 (hereafter sufficient power) and 0.9 (hereafter high power), and a vertical line was added to visualize the magnitude of difference that was observed in the original analysis.

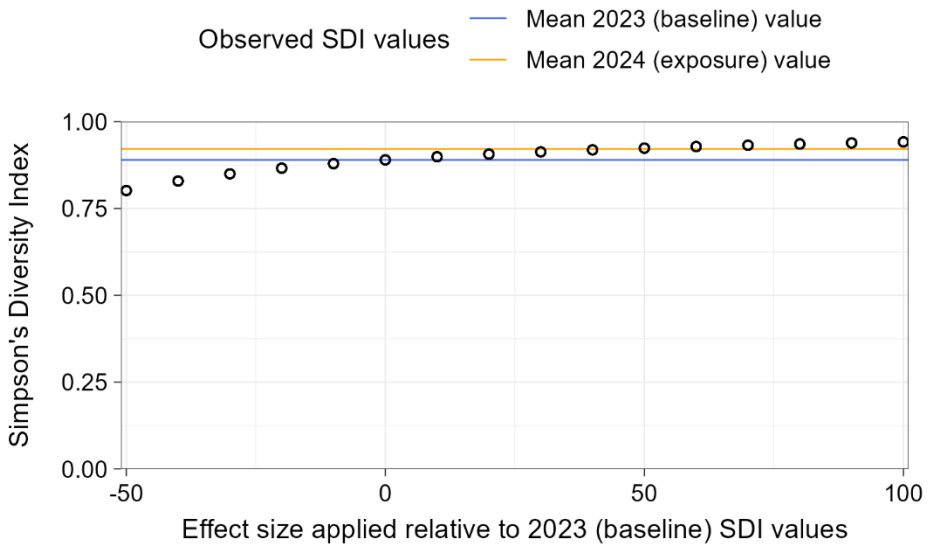


Figure 3F-1: Simulated SDI values (points) and observed 2023 and 2024 SDI values (lines) as an example of applying the effect size on the odds scale.

POWER ANALYSIS – RESULTS

Total Density

The model of total density data collected in 2023 and 2024 at the Capesize stations had sufficient power (>0.8) to detect a 47% decrease or an 82% increase in benthic infauna density (Figure 3F-2). The observed effect size was -34% and the effect of year was not found to be significant in the original model (*P*=0.059; Section 4.4.3.1 in the 2024 MEEMP main report [WSP 2025]). Statistical power to detect the observed effect size was 0.5.

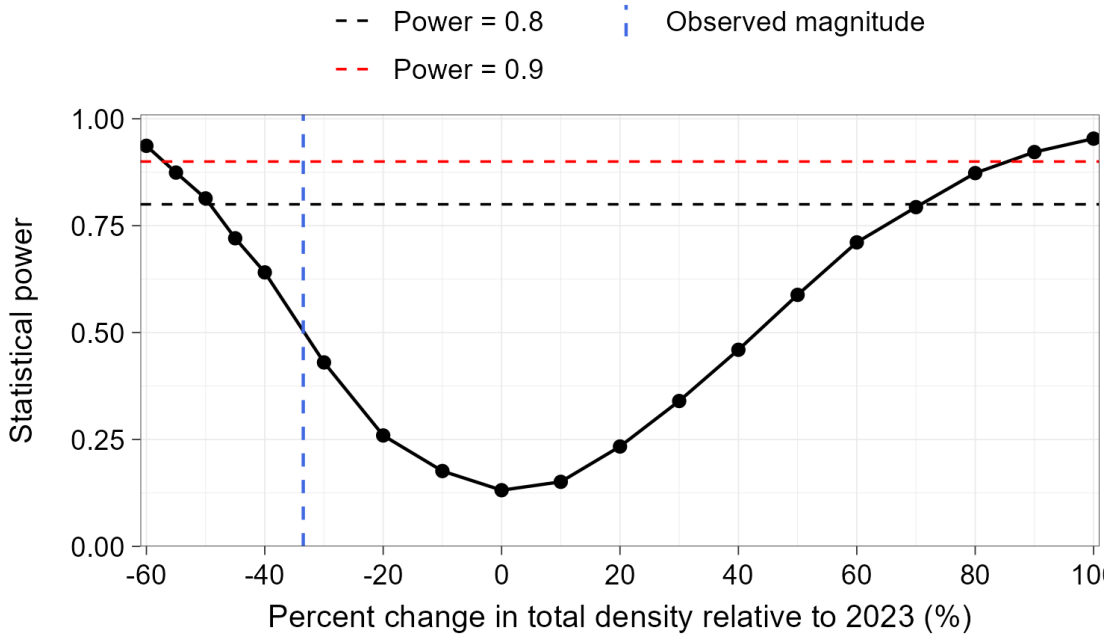


Figure 3F-2: Statistical power to detect a significant difference between total density at the Capesize stations sampled in 2023 and 2024.

Richness

The model of species richness data collected in 2023 and 2024 at the Capesize stations had sufficient power (>0.8) to detect a 22% decrease or increase in benthic infauna richness (Figure 3F-3). The observed effect size was -10% and the effect of year was not found to be significant in the original model (*P*=0.19; Section 4.4.3.2 in the 2024 MEEMP main report [WSP 2025]). Statistical power to detect the observed effect size was 0.27.

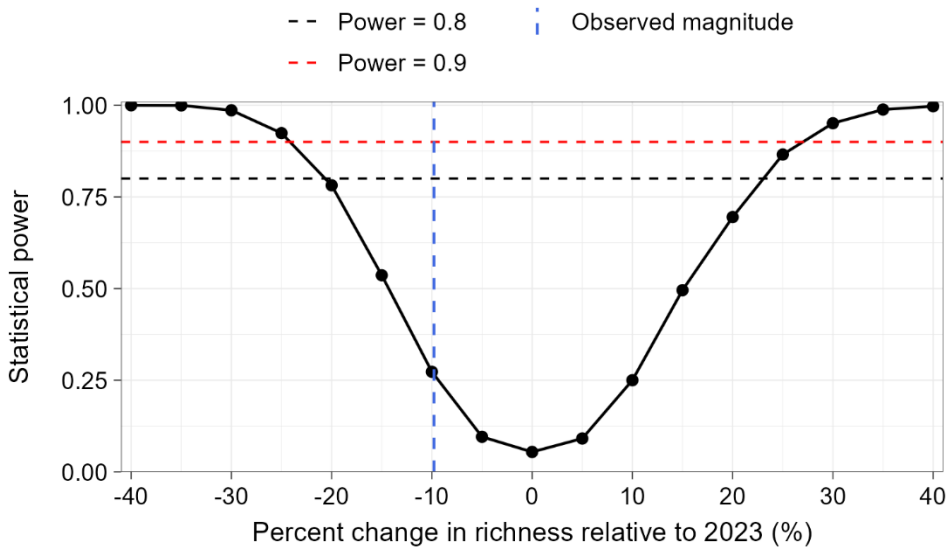


Figure 3F-3: Statistical power to detect a significant difference between species richness at the Capesize stations sampled in 2023 and 2024.

Simpson's Diversity Index

The model of Simpson's Diversity Index values estimated for benthic infauna data collected in 2023 and 2024 at the Capesize stations had sufficient power (>0.8) to detect a 33% decrease or 61% increase in SDI (on the odds scale; Figure 3F-4). The observed effect size was +45%, however the effect of year was found to be significant in the original model (*P*=0.048; Section 4.4.3.4 in the 2024 MEEMP main report [WSP 2025]). Statistical power to detect the observed effect size was 0.65.

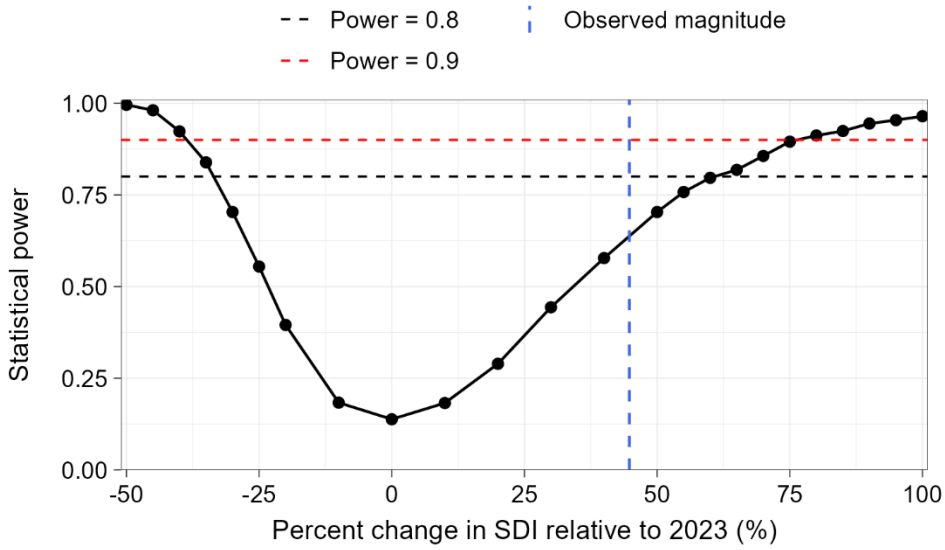


Figure 3F-4: Statistical power to detect a significant difference between Simpson's Diversity Index values at the Capesize stations sampled in 2023 and 2024.

Simpson's Evenness Index

The model of Simpson's Evenness Index values estimated for benthic infauna data collected in 2023 and 2024 at the Capesize stations had sufficient power (>0.8) to detect a 56% decrease or 95% increase in SEI (on the odds scale; Figure 3F-5). The observed effect size was +143% and the effect of year was found to be significant in the original model (*P*=0.001; Section 4.4.3.4 in the 2024 MEEMP main report [WSP 2025]). Statistical power to detect the observed effect size was 0.95.

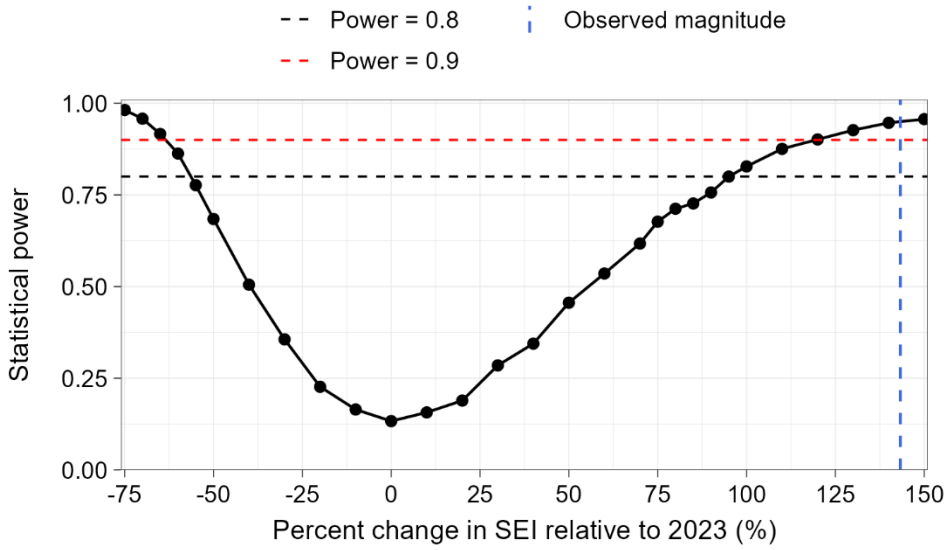


Figure 3F-5: Statistical power to detect a significant difference between Simpson's Evenness Index values at the Capesize stations sampled in 2023 and 2024.

POWER ANALYSIS – SUMMARY

Summary of Findings

In the analysis of density, there was sufficient power to detect a 47% decrease in density or an 82% increase in density values relative to 2023. The observed effect size (34% decrease in density relative to 2023) had low statistical power. In the analysis of richness, there was sufficient power to detect a 22% decrease or increase in richness relative to 2023. The observed effect size (10% decrease in richness relative to 2023) had low statistical power. In the analysis of SDI, there was sufficient power to detect a 33% decrease in SDI or a 61% increase in SDI relative to 2023. The observed effect size (45% increase in SDI relative to 2023) had low statistical power. In the analysis of SEI, there was sufficient power to detect a 56% decrease in SEI or a 95% increase in SEI relative to 2023. The observed effect size (143% increase in SEI relative to 2023) had high statistical power. Generally, analyses of benthic infauna had higher statistical power to detect decreases, rather than increases, in values. Since reductions in benthic infauna indices are of more concern than increases, the statistical power to detect reductions was considered to be more relevant.

Given the low statistical power to detect effect sizes that may be of biological relevance, going forward, it is recommended that conclusions are not made based on strict adherence to statistical significance. Instead, effect size, uncertainty, and statistical significance and power should be considered together before ruling out spatial and temporal changes in benthic infauna.

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REPORT

Chapter 5.0 Substrate, Macroflora, and Benthic Epifauna

2024 Milne Port Marine Environmental Effects Monitoring Program (MEEMP) and Non-Indigenous Species/Aquatic Invasive Species (NIS/AIS) Monitoring Program

Submitted to:

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Submitted by:

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CA0026317.6821-051-R-Rev0-86000

April 9, 2025



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ACRONYMS AND ABBREVIATIONS

Acronym or Abbreviation	Definitions
AIC	Akaike's Information Criterion
CD	Chart Datum
cm	centimetre
DF	Degrees of freedom
DFO	Fisheries and Oceans Canada
EEM	Environmental Effects Monitoring
FEIS	Final Environmental Impact Statement
GLMM	Generalized Linear Mixed Models
L	Litres
LPL	Lowest Practical Level
m	metre
mm	millimetre
m^2	square-metre
MEEMP	Marine Environmental Effects Monitoring Program
MEWG	Marine Environment Working Group
MFEAP	Marine Foreshore Environment Assessment Procedure
mL	millilitre
NIS/AIS	Non-Indigenous Species/Aquatic Invasive Species
No.	Number
Ns	Natural spline
org/m^2	Organism per square-meter
P	P-value
PC	Project Certificate
Q	Quadrat
QA/QC	Quality Assurance and Quality Control
ROV	Remotely Operated Vehicle
SDI	Simpson's Diversity Index
SE	Standard Error

Acronym or Abbreviation	Definitions
sp.	Single or unconfirmed multiple species within a genus, used when the specimen has not been identified to the species level
UNB	University of New Brunswick
UTM	Universal Trans Mercator
VIF	Variance Inflation Factor
ZOI	Zone of Influence
%	Percent
>	Greater than
<	Less than

5.0 SUBSTRATE, MACROALGAE, AND BENTHIC EPIFAUNA

5.1 Introduction

This chapter presents the results of the substrate, macroalgae, and benthic epifauna monitoring program, a component of the larger Marine Environmental Effects Monitoring Program (MEEMP) conducted in Milne Inlet during the 2024 open-water season. The MEEMP is designed to evaluate potential Project-related effects on the marine environment as predicted in the Final Environmental Impact Statement (FEIS) and FEIS addenda (Baffinland 2012, 2013). This component was also developed in consideration of the monitoring requirements outlined in the Project Certificate (PC) Conditions described in Chapter 1.0, Table 1-2. PC Conditions related to the monitoring of substrate, macroalgae, and epifauna included PC Conditions No. 76, 83 (a), 87, 99 (a), and 99 (c).

5.1.1 Objectives

The MEEMP objectives are outlined in Section 1.3 of Chapter 1.0 (Program Overview). Objectives specific to the substrate, macroalgae, and benthic epifaunal component are as follows:

- Monitor for changes in substrate conditions or in the macroalgae and benthic epifaunal community at Milne Port and at a nearby reference area for the purpose of identifying potential Project-related effects.
- Verify predictions made in the FEIS, and subsequent addenda, regarding effects on Arctic char (*Salvelinus alpinus*) habitat.
- Recommend necessary and appropriate changes to survey methodology for future years, if warranted.

5.2 Study Design

5.2.1 Background

The 2014 to 2017 MEEMP study design monitored for changes to the benthic community with epifauna[1] and macroalgae[2] as indicators, using towed underwater video transect surveys. The use of epifauna and macroalgae as effect indicators deviated from the standard Environmental Effects Monitoring (EEM) methodology (Environment Canada 2012) and presented a number of challenges, including 1) high temporal and spatial variability due to the mobile and transient nature of many epifaunal species, 2) typically low resolution of video survey data compared to laboratory analysis for species identification, enumeration and substrate classification, and 3) difficulty in distinguishing between live macroalgae (e.g., kelp) and detrital vegetation debris using video survey methods, which can result in inaccurate results.

In 2018, a new survey design was implemented, based on a Before-After-Control-Impact (BACI) approach. A reference area had been established in 2013 and selected for its proximity to Milne Port while residing outside of the main zone of influence (ZOI) of Project activities (SEM 2014). Towed underwater video transects were replaced with five belt transects (1 m x 5 m plots) permanently installed on the seabed in each exposure (impact) and reference (control) areas. The belt transects deployed were composed of two 1 m-long, 5 cm-diameter

[1] Benthic invertebrates or other organisms living on the substrate.

[2] Marine vegetation attached to the substrate (e.g. kelp).

aluminum pipes filled with concrete connected by two steel chains (5 m in length) attached to both ends of the pipes (Figure 5-1A). Monitoring was conducted using a remotely operated vehicle (ROV) underwater video system. In addition to informing this component of the MEEMP, taxonomic data were also used to inform the Non-Indigenous Species and Aquatic Invasive Species (NIS/AIS) program (Chapter 8.0). In 2019, underwater video monitoring of epifauna and macroalgae communities within permanent belt transects continued for a second year. In 2019, it was determined that the flexible design was not suitable for the environment, as five of the ten deployed transects had been dragged from their original position due to presumed interactions with the sea-ice during spring break-out or had become embedded in the sediment and thus obscured from video detection (Golder 2020, 2021).

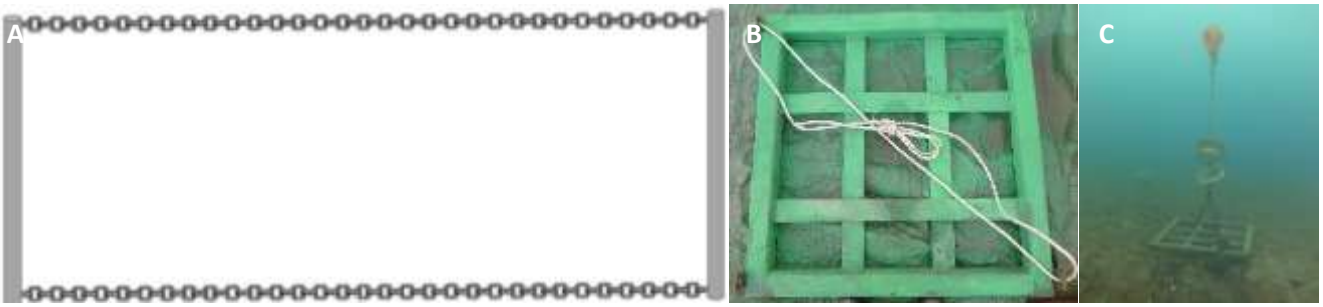


Figure 5-1: A) Diagram of Belt Transects Used for Macroalgae and Epifauna Surveys in 2018 – 2019; B) Example of 1 x 1 m Steel Quadrat Deployed in 2021; and C) Underwater Photo of Quadrat (Q4) With Attached Settlement Substrates for NIS/AIS Monitoring.

The program was modified in 2020 to replace the belt transects, which had been determined to be ineffective due to being dragged out of position. Modifications to the program in 2020 included the use of divers to undertake biophysical surveys of permanent, heavy-duty steel quadrats to improve the resolution of taxonomic identification. In previous years, taxonomic resolution was relatively coarse because of poor visibility due to suspended particles in the water column and the use of a ROV-based underwater video survey for monitoring. Survey of the quadrats was performed by a combination of divers and ROV in 2020[3]. The rationale for discontinuing the ROV was that divers were more accurately able to distinguish unique taxa, differentiate between detrital algae or non-living organisms versus living organisms, move vegetation aside to observe the underlying substrate and marine organisms, and collect specimens from the quadrats for identification purposes.

A total of ten 1 m x 1 m square quadrats (Q) were fabricated onsite in 2020 and installed on the sea bottom in Milne Port, five in the exposure area (Q1 through Q5) and five in the reference area (Q6 through Q10) (Figure 5-1B,C; Figure 5-2; Appendix 5B – Photo 1). Each quadrat was deployed with chains (Appendix 5B – Photo 1) and marked with fluorescent spray paint to aid in relocating them in subsequent surveys. Additionally, starting in 2020 as part of the Chapter 8.0 NIS/AIS program, settlement substrates were co-located and deployed with the quadrats to monitor for short- and medium-term recruitment of encrusting taxa. Settlement substrates consisted of settlement plates attached to the center quadrat deployment chain/line with a subtidal buoy, and cobble-filled settlement baskets attached to a corner of the quadrat, as described in Chapter 8.0 (Figure 5-1C; Appendix 5B – Photo 2).

[3] Divers surveyed quadrats in the reference area (Q6, Q8, Q9, Q10), but were unable to survey the quadrats in the exposure area due to time constraints in the field program (these were subsequently completed using ROV-video surveys).

In 2021, survey methods were modified to be conducted solely via divers to maintain taxonomic resolution. An additional ten square steel quadrats were fabricated and deployed with polyurethane line (Appendix 5B – Photo 2) in 2021 (Q11 through Q20; five in each exposure and reference area). These quadrats were generally deployed to be paired with existing quadrats (e.g., Q1 with Q11; Figure 5-2), doubling the total number of quadrats relative to 2020, to ten in each area in 2021. Surveys conducted in 2020 indicated that Q9 in the reference area had been originally deployed over hard substrate (boulder) and supported different ecological communities relative to the soft substrate quadrats. Therefore, in 2021, Q9 was relocated to a different area to maintain comparability between quadrats.

During the 2021 field program, divers were unable to locate Q2 after undertaking a thorough search between the -3 and -12 m CD (chart datum) depth contours (Q2 was deployed at approximately -10 m CD), extending approximately 25 m to the west and east of the original location. This quadrat was assumed to have been dragged from its original position by sea-ice. A replacement quadrat (Q2) was deployed at -12 m CD in 2022 with co-located settlement substrates. Surveys conducted in 2021 also noted that Q12 had been deployed too shallow (-6 m CD) for desired target depth (-7 to -9 m CD) and, consequently, the Q12 quadrat data were not included in analyses in 2021. Quadrat Q12 was relocated to deeper water in 2022 (with co-located settlement substrates) to maintain comparability between quadrats, as per recommendations in Golder (2022).

In 2022, six new permanent quadrats, Q21 through Q26, were deployed (three in each of the exposure and reference areas), to increase statistical power and address Marine Environment Working Group (MEWG) Comment No. 05 from the 2021 MEEMP and NIS/AIS Monitoring Program Report (Golder 2022). This modification expanded the total number of quadrats to 13 in each area (Figure 5-2). Additional quadrats deployed in 2022, Q21 through Q26, were not co-located with Chapter 8.0 NIS/AIS settlement substrates.

During the 2022 field program, the vessel anchor had been deployed and caught on Q16, causing it to drag across the bottom to a new location in -9.1 m CD from the original -5.7 m CD depth. Divers observed that the sediment surface was disturbed inside and outside the quadrat and the data collected during the 2022 quadrat survey indicated that less silt was observed compared to 2021 and that infauna, such as clams, had been brought up to the sediment surface. Therefore, Q16 results from 2022 were considered an outlier and removed from analyses.

During the 2023 field program, one objective was to relocate Q16 to a new location at a similar depth as the original location in 2021 (-5.7 m CD) with a new quadrat name to restart the quadrat data series. Relocation was not possible in 2023 due to field program constraints (e.g., program delay due to late ice break up, vessel repairs).

5.2.2 Modifications to the 2024 Program

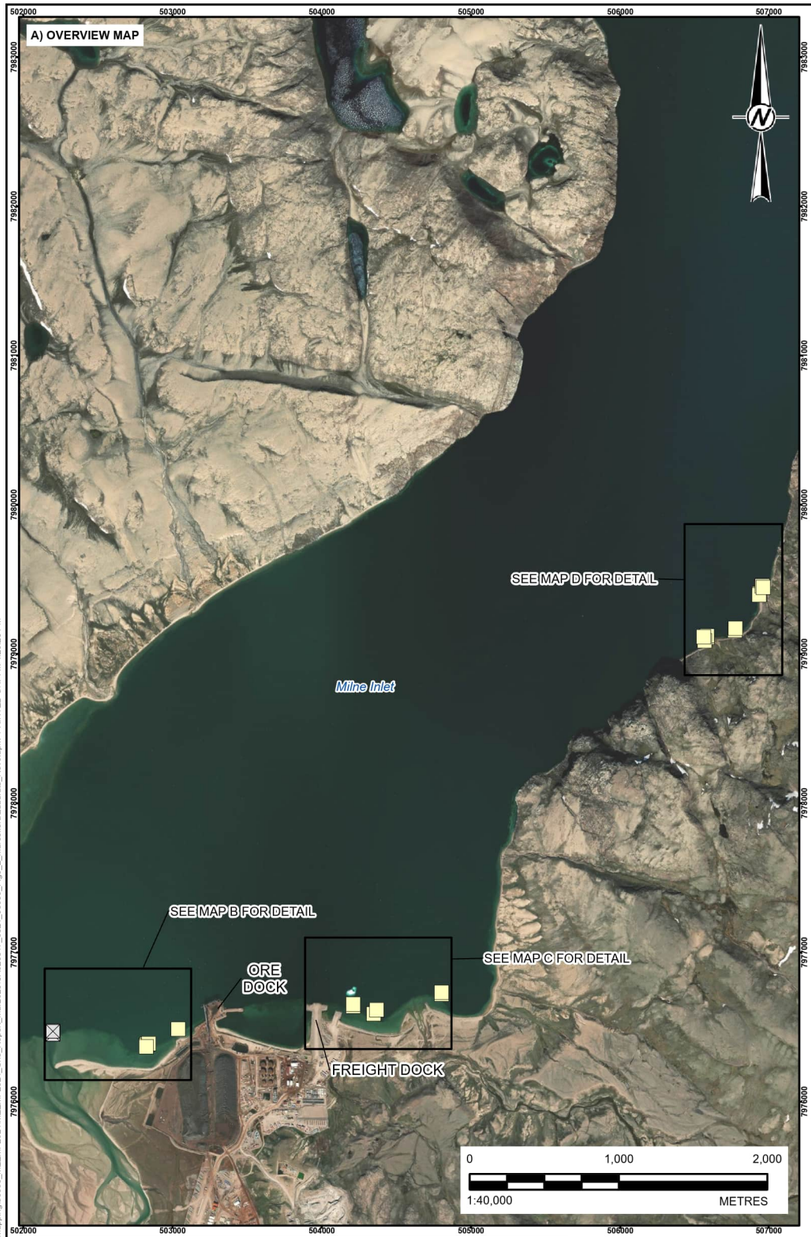
In total, 24 of the 26 quadrats were surveyed in 2024. Two quadrats, Q21 and Q22 (deployed at -6 and -10 m CD, respectively), could not be located despite multiple prolonged search efforts between the -3 and -12 m CD depth contours near the deployment coordinates. Divers recovered Q16 which had been dragged into deeper water in 2022, and, using a diver-assisted 56 kg lift bag, relocated it to its approximate original depth but offset from its original position by approximately 10 m. This quadrat was renamed as Q27 and surveyed two days after being relocated. The Q16 timeseries was discontinued and a separate timeseries for Q27 created in 2024 for data analysis.

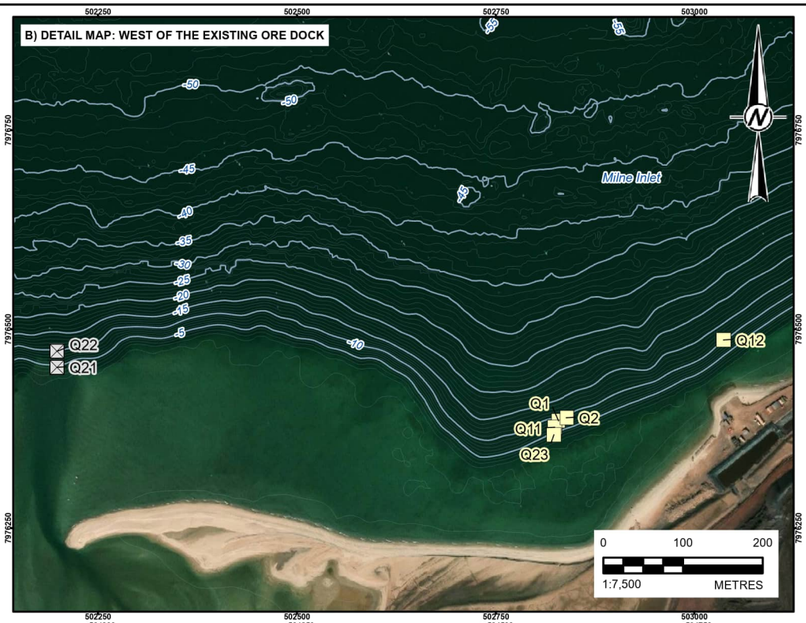
To assist in site identification in future years (e.g., in case quadrats are moved from the original coordinates), white hard plastic cards, approximately 5 cm x 5 cm, were attached to each quadrat in 2024 with their respective site identification (e.g., ‘Q1’) written on the card in permanent marker (Appendix 5B – Photo 3). The cards were attached on the settlement plate buoy line above the quadrats so as not to interfere with colonization within the quadrat.

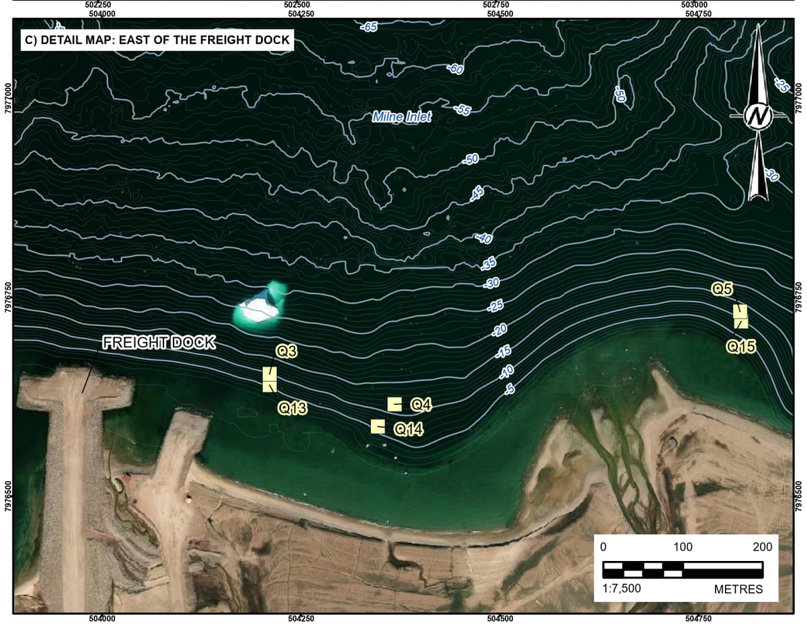
5.2.3 Indicators

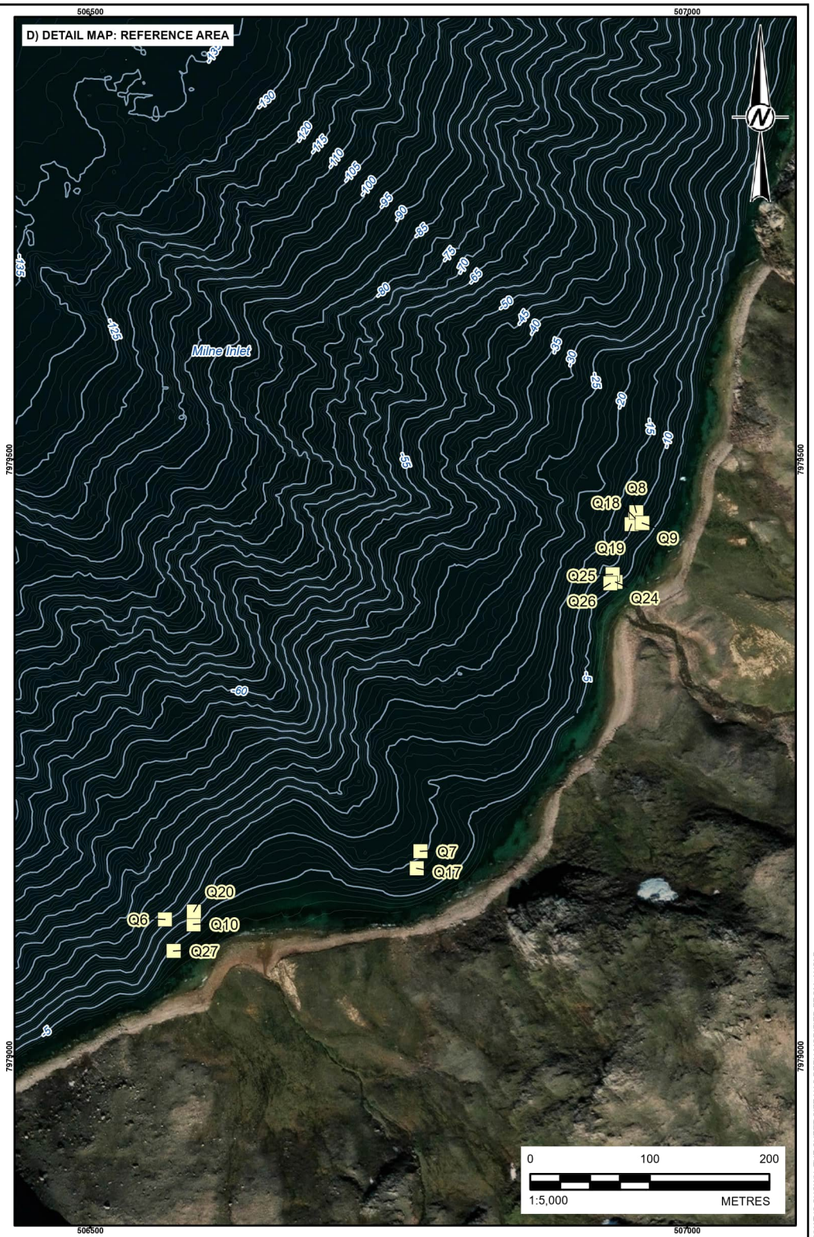
Effect indicators selected to evaluate potential Project-induced changes in substrate, macroalgae and epifauna include taxa richness (number of unique taxa present), relative abundance, Simpson’s Diversity Index (SDI), density (motile taxa) and percent cover (macroalgae and sessile invertebrates). These indicators are described in detail in Section 5.3.2.1. The indicators were calculated from data collected in both reference and exposure areas and analyzed statistically to evaluate Project-related effects within the study area.

Changes in field methodologies over time (as explained in Section 5.2.1), preclude the ability to make quantitative temporal comparisons to years prior to 2021. The 2021 quadrat survey results served as a benchmark for quantitative comparisons for future monitoring years so long as field methodologies remained consistent.









LEGEND

BATHYMETRIC CONTOUR (1 m INTERVAL)

BATHYMETRIC CONTOUR (5 m INTERVAL)

PERMANENT QUADRAT LOCATIONS

SURVEYED IN 2024

NOT SURVEYED IN 2024

REFERENCE(S)

BATHYMETRY CREATED BY GOLDER FROM MULTIPLE DATA SOURCES. IMAGERY COPYRIGHT © 20240718 ESRI AND ITS LICENSORS. SOURCE: MAXAR. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

CONSULTANT

YYYY-MM-DD	2025-04-09
DESIGNED	NO
PREPARED	AA
REVIEWED	NO
APPROVED	AL

TITLE
DEPLOYMENT LOCATIONS FOR THE PERMANENT QUADRATS FOR MONITORING SUBSTRATE, MACROFLORA AND BENTHIC EPIFAUNA IN MILNE PORT, 2024

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5.3 Materials and Methods

5.3.1 Field Methodology

Twenty-six 1 m x 1 m square steel quadrats[4] were fabricated on site and lowered to the sea floor from a vessel: thirteen quadrats in each of the exposure area and reference area (Table 5-1; Figure 5-2). Ten quadrats (Q1 through Q10) were deployed in 2020, ten additional quadrats were deployed in 2021 (Q11 through Q20) generally co-located with the 2020 quadrats, and six additional quadrats were deployed in 2022 (Q21 through Q26). In each case, annual surveying commenced in the year of deployment and/or in the year of their redeployment or movement, as necessary (see Section 5.2.2). The 2020 quadrats were deployed from the field vessel at the locations of the previous belt transects, in water depths of approximately -4 to -18 m CD. Quadrats were marked over time using various methods with quadrat-specific identifying features to identify quadrat number to the divers[5] for aid in relocating them in subsequent surveys. With the exception of Q12, quadrats were deployed in pairs or clusters so that more than one quadrat could be surveyed on a single dive.

Field surveys of the quadrats were conducted between July 29 and August 11, 2024 by WSP's occupational (SCUBA-based) dive team composed of marine biologists. The dive team is certified in accordance with Canadian Standard Association Z275:4-97, and WorkSafe BC Regulations Part 24. Dive surveys were conducted from Baffinland's 9.75 m research vessel.

Field surveys included the following components:

- Subtidal dive quadrat surveys to quantitatively evaluate macroalgae, sessile and motile invertebrates and fish occurrence (commonly termed epifauna) within both the exposure area and reference area.
- Opportunistic observations[6] of macroalgae, fish and motile/sessile invertebrates during quadrat surveying.
- Opportunistic specimen collection of macroalgae, fish and motile/sessile invertebrates to enhance taxonomic resolution, particularly for taxonomic groups capable of hull fouling or ballast water transport.

Table 5-1: Quadrat Locations in Milne Port (2024)

Area	Quadrat	UTM Coordinates (17W)		Depth (-m below CD)[1]	Deployment Date	Survey Date (2024)
		Easting (m)	Northing (m)			
Milne Port (Exposure)	Q1	502828	7976382	8.8	August 12, 2020	July 31
	Q2	502839	7976390	10.3	August 9, 2022	July 31
	Q3	504210	7976655	10.3	August 12, 2020	August 11
	Q4	504367	7976617	11.7	August 12, 2020	August 11
	Q5	504802	7976734	11.5	August 12, 2020	August 6

[4] The quadrat frames are approximately 1 m x 1 m but the survey area excludes the metal sub-grid bars (see Section 5.3.1.1). 2020/2021-fabricated quadrats have a survey area 0.44 m^2; the 2022-fabricated quadrats have a survey area 0.64 m^2.

[5] Quadrats Q1 through Q10 have anchor chain suspending the settlement plates, while quadrats Q11 through Q20 have polyurethane line. Quadrats Q21 through Q26 do not have co-located settlement plates and have unique buoys associated with each quadrat. All quadrats were given attached permanent plastic cards in 2024, with the exception of Q21 and Q22.

[6] Opportunistic observations refer to observations that were recorded during diver-collected photo or video to document presence/absence in a qualitative manner rather than quantitatively assessed during the quadrat survey.

Area	Quadrat	UTM Coordinates (17W)		Depth (-m below CD)[1]	Deployment Date	Survey Date (2024)
		Easting (m)	Northing (m)			
	Q11	502823	7976378	7.5	August 10, 2021	July 31
	Q12	503036	7976488	11.4	August 6, 2022	July 31
	Q13	504210	7976641	6.7	August 10, 2021	August 11
	Q14	504346	7976589	7.7	August 6, 2021	August 11
	Q15	504803	7976721	9.0	August 6, 2021	August 6
	Q21*	502197*	7976453*	6*	August 6, 2022	Not surveyed
	Q22*	502198*	7976473*	10*	August 6, 2022	Not surveyed
	Q23	502822	7976368	4.3	August 6, 2022	July 31
Reference Area	Q6	506562	7979116	15.7	August 13, 2020	August 8
	Q7	506776	7979173	9.1	August 13, 2020	August 6
	Q8	506957	7979457	9.9	August 13, 2020	July 29
	Q9	506962	7979448	8.3	August 11, 2021	July 29
	Q10	506586	7979112	6.4	August 13, 2020	August 6
	Q17	506773	7979159	8.6	August 11, 2021	August 6
	Q18	506956	7979452	9.8	August 11, 2021	July 29
	Q19	506953	7979447	9.6	August 11, 2021	July 29
	Q20	506586	7979123	10.0	August 8, 2021	August 6
	Q24	506940	7979399	5.2	August 7, 2022	August 7
	Q25	506937	7979405	7.4	August 7, 2022	August 7
	Q26	506935	7979397	6.4	August 7, 2022	August 7
	Q27[2]	506569	7979090	5.0	August 6, 2024	August 8

Note: '*' indicates the quadrats were determined to be lost after multiple recognisance efforts and subsequently not surveyed in 2024. Depths and coordinates recorded above indicate the last observed locations and depth of the quadrats.

[1] Diver depth gauge was converted to meters chart datum (CD), estimated using tide table for Milne Inlet, Nunavut (https://tides.gc.ca/en/stations/05791 [accessed September 2024]). The negative (-) numbers indicate 'below' CD.

[2] Q16 was repositioned to its approximate original depth (-5.0 m CD) after having been moved into deeper water (-9.1 m CD) in 2022 due to vessel anchor dragging the quadrat. This quadrat was removed from analysis/discontinued and renamed Q27 with a new time series.

5.3.1.1 Quadrat Survey

Biophysical data within each quadrat were recorded by one diver while another diver collected representative photographs[7] of the quadrat (Appendix 5B – Photo 1). Observations were made of the quadrat as a whole as opposed to surveying each sub-quadrat individually (as was done in 2021) to increase survey efficiency and remain standardized for multi-year comparisons. Due to the three-dimensional space created by the quadrat steel frame, the deployment chain/line, and the vertical settlement plate line, and to remain consistent with previous years, the survey quantification excluded the following areas, unless organisms moved (wholly or partially) within the quadrat during the survey:

- Outside of the quadrat steel frame.
- Within the frame structure (i.e., outside hollow frame) of quadrat.
- On top of the metal crossbars inside the main frame or on top of the outer frame.
- Attached to the quadrat deployment chain/line above the height of the quadrat frame (attachment to the chain or line strung through the quadrat was included).

Quantitative data were collected in general accordance with Fisheries and Oceans Canada's (DFO) Marine Foreshore Environmental Assessment Procedure (MFEAP; Appendix 5A). Quadrat data were recorded on project-specific datasheets, and included the following information (Appendix 5B – Photo 1):

- Substrate type, visually estimated according to the following size ranges derived from Wentworth (1922) and recorded as relative composition (i.e., as a percent areal coverage): bedrock; boulder (>256 mm diameter); cobble (64 to 256 mm); gravel (2 to 64 mm); and soft substrate[8] (<2 mm).
- Total percent cover of detritus and debris, calculated separately from substrate composition as it overlaid the existing substrate. Detritus and debris were categorized into three groups: detrital veneer, detrital macroalgae, and other debris (i.e., metal). Detrital veneer is organic material and appears to consist of phytoplankton/diatoms usually with silt.
- Macroalgae, visually estimated to total areal coverage and identified to the lowest practical level (LPL).
- Sessile invertebrates (e.g., clams and mussels), visually estimated to total areal coverage and identified to LPL (as above).
- Motile invertebrates (e.g., urchins, limpets) and fish, identified to LPL and enumerated[9].

Photographs showing representative biological features and aiding in species identification were also taken.

[7] Underwater imagery collected using a SONY RX100 V camera in Fantasea underwater housing and video light for all underwater surveys. The camera has high-definition video capability and still photography features.
[8] Sand (0.0625 to 2 mm) and silt/mud/clay (<0.0625 mm) were estimated as a single category of soft sediment starting in 2023 due to constraints in the field determining exact grain size through dive gloves and misalignment of Chapter 5.0 and Chapter 3.0 (Sediment Quality) results in previous years. Data from 2022 and 2021 were adjusted to follow this change.
[9] Abundance was estimated if relatively large numbers (typically, numbers exceeding 100, depending on size and behaviour of organisms) of motile species were present.

5.3.1.2 Opportunistic Specimen Collection

Opportunistic samples of epifauna and macroalgae were collected to improve species identifications, which is particularly important if this sampling method is to effectively detect species that might be non-indigenous to the area. Specimens were collected using the following protocol:

- Divers collected specimens in sealed plastic bags or small vials and brought these to the surface in a mesh bag.
- Discretion was used to sample one to two representative individual(s) to avoid over-harvesting from the quadrats which could have future implications on the community assemblage (experimental design interaction) and/or to collect samples from just outside the quadrat.
- The majority of macroalgae samples were processed by a master's student from Dr. Gary Saunder's laboratory at the University of New Brunswick (UNB), who was on site for the majority of surveys. Samples were separated and laid out within a metal dish with a thin layer of water for visual identification. Pieces of samples were then dried with Kimwipes and placed into 1.25 mL centrifuge tubes filled with silica gel to preservati specimens for DNA analysis. Samples were sent to UNB for further analysis.
- Macroalgae samples collected when the master's student was not on site were preserved in either in the same manner as above or placed in placed into appropriately sized containers (e.g., 1 L jar) and preserved with 80% ethanol.
- Epifauna samples were placed into appropriately sized containers (e.g., 50 mL vials, 120 mL clear glass jars) and preserved either in a 10% buffered formalin solution or 80% ethanol, both solutions confirmed to be appropriate for initial preservation of specimens for taxonomic analysis and/or DNA analysis by the Canadian Centre for DNA Barcoding. The jars were then sealed and inverted several times to promote homogenization and saturation with the preservative. Jars were labelled internally and externally with water-resistant labels.
- Samples were sent to Biologica Environmental Services Ltd. (Biologica) for taxonomic identifications.

5.3.2 Data Analysis

Diver-collected quadrat data were entered into an electronic database by one biologist and verified by a second biologist to reduce transcription errors. Some taxa observed were neither epifauna nor benthic, such as pelagic taxa (mysid shrimp, sea angels), and hence considered "incidental" and not included in data analysis. Field-based identifications were updated where lab identifications of opportunistically sampled specimens resulted in improved taxonomic resolution. Further, identifications were verified and updated, as necessary, with photographs taken from the field.

Data analysis was based on separating biota by three assemblages, defined as taxa that share an attribute of habitat or taxonomic similarity, and representing subsets of a biological community: macroalgae, sessile epifauna, and motile epifauna. Results are therefore presented by these three assemblages in Section 5.4.

Statistical analysis was based on four indicators: taxa richness (to the lowest practicable level), Simpson's Diversity Index (SDI), organism density (motile epifauna) and percent cover (macroalgae and sessile epifauna). In addition, assemblages were explored using relative abundance, by grouping related taxa into broader taxonomic classifications (e.g., grouping all fish taxa into the broader classification 'fish') to evaluate how proportions of these

major classifications might differ between exposure and reference area. Quantitative statistical analyses were performed comparing results from 2021 through 2024. Due to inconsistent sampling methodologies in previous survey years (see Section 5.2.1), a quantitative statistical analysis was not possible for survey years before 2021.

5.3.2.1 Community Indicators

Taxa Richness

Richness is defined as the total number of unique[10] taxa per quadrat. This metric provides an indication of the diversity (number of different species) in the local ecological community. A higher richness value typically indicates a healthier and more balanced community. Mean taxa richness and standard error (SE) of the mean was calculated based on number of taxa by area (exposure, reference).

Simpson's Diversity Index

Simpson's Diversity Index (SDI) measures the proportional distribution of organisms in the community. The SDI considers the abundance patterns and taxonomic richness of the community. Certain conditions may favour one taxon over another, resulting in the community being dominated by a few taxa, which is reflected in decreased diversity (Simpson 1949). The SDI values range between zero and one, where lower values indicate a less diverse community, and higher values indicate a more diverse community. The SDI was calculated using the following formula provided by Krebs (1999):

$$SDI = 1 - \sum_{i=1}^{S} (p_i)^2$$

Where:

- S = the total number of taxa
- p_i = the proportion of the i^{th} taxon (of each unique taxon out of the total abundance of the sample)

For categorization, SDI values were considered to range from very low diversity to high diversity, as described in Table 5-2. Mean SDI and SE of the mean were calculated for each exposure and reference areas.

Table 5-2: Diversity Categories for Simpson's Diversity Index (SDI) Values

SDI Value	Diversity Category
<0.250	Very Low
0.250 through 0.499	Low
0.500 through 0.750	Moderate
>0.750	High

[10] Did not include higher order taxa for which there exists a lower order identification. For example, does not include *Mya* sp. if *Mya truncata* is found in the same quadrat.

Organism Density

For motile invertebrates and fish (collectively motile epifauna), density was standardized to organisms (org)/m^2 using a correction factor for quadrat size to maintain comparability. Newly fabricated quadrats in 2022 were larger than those fabricated in 2020 and 2021. The survey area (excluding the metal sub-grid bars; Figure 5-1B) of the 2020/2021 quadrats was 0.44 m^2 while the 2022-fabricated quadrats had a survey area of 0.64 m^2. Therefore, correction factors have been applied to quadrats during data analysis to standardize results to 1 m^2. Mean density (org/m^2) and SE of the mean were calculated separately for exposure and reference areas.

Percent Cover

For macroalgae and sessile epifauna, mean percent areal cover (total cover) and SE of the mean was calculated separately by area (exposure, reference). Relative abundance was calculated as percent cover standardized out of 100% for substrate, macroalgae, sessile and motile epifauna.

Relative Abundance

Relative abundance is the proportion that a taxa or grouping contributes to the total abundance (standardized as a percentage). Dominant taxa (e.g., wrinkled rock borers [*Hiatella arctica*], brittle stars [Family Ophiuroidea]) were kept at the lowest practical level while less commonly observed and/or easily grouped taxa were rolled into broader taxonomic classifications (e.g., grouping all fish taxa into the broader classification ‘fish’).

5.3.2.2 Statistical Analysis

Generalized Linear Mixed Models (GLMMs)

Differences in substrate, detritus and debris, macroalgae, and benthic epifauna indicators between the exposure and reference areas and between the survey years 2021-2024 were analyzed using Generalized Linear Mixed Models (GLMMs). These models were chosen due to their ability to account for both fixed and random effects, making them suitable for repeated measure studies where quadrats are resampled across time. The fixed effects in our models included the categorical explanatory variables of years, area (exposure and reference area), and substrate type, and the continuous explanatory variable of depth; the random effect was quadrat. The models incorporated an interaction term (Year*Area) to assess whether area effects varied across different years. Model selection for finding the best fitting model was performed using Akaike’s Information Criterion (AIC) weights. The three models compared included the following explanatory variables[11]:

1) y ~ Year * Area + (1 | Quadrat)

2) y ~ Year * Area + ns(Substrate) + (1 | Quadrat)

3) y ~ Year * Area + ns(Depth) + (1 | Quadrat)

For count and density data, Poisson or negative binomial distributions were used, while beta regression was employed for percent and substrate data. To ensure the absence of collinearity among the explanatory variables, Variance Inflation Factor (VIF) values were calculated, with values below three indicating no collinearity, as per the guidelines of Zuur et al. (2007).

[11] ns = natural splines

The models were further checked for overdispersion and outliers. Pairwise comparisons were conducted (1) between years within quadrats and (2) between areas within a year, to describe effect sizes. After fitting the GLMM, estimated marginal means were calculated to perform pairwise comparisons to compare areas within each year and across all years.

A p-value <0.05 is considered to indicate significance between groups. The statistical analyses were conducted using R Studio (R version 4.3.2; R Core Team 2025) with the packages glmmTMB (Version: 1.1.8; Brooks et al. 2017), DHARMa (Version: 0.4.6; Hartig 2022), and emmeans (Version 1.10.0; Lenth 2020).

Taxa Accumulation

A taxa accumulation curve was calculated for quadrats surveyed in each year from 2021 through 2024 to provide an estimate of the effort required to characterize the epibenthic community assemblage. A taxa accumulation curve illustrates how the number of unique taxa (or species) increases as the number of samples are accumulated; in other words, the harder one looks (i.e., the higher the sampling effort), the more unique taxa are found. The curve reaches an asymptote when all taxa within the given community assemblage have been sampled and the community assemblage is assumed to have been fully described. The observed species (or taxa) curve is plotted and the sample (i.e., quadrat) order is randomized and permutated 999 times, resulting in an averaged curve describing a smooth relationship of the average number of species (or taxa) for each number of replicates and the standard deviation of the mean (i.e., permutations). This is equivalent to station-based rarefaction curves. Analysis was conducted using R Studio (R version 4.3.2; R Core Team 2025).

Power Analysis

A power analysis was performed using the 2021 through 2024 data using simulation methods. A detailed methodology is provided in Appendix 5E.

5.3.3 Quality Management

Quality assurance and quality control (QA/QC) procedures were applied to the field collection, data analysis, and reporting tasks within the chapter component to verify that the data presented were valid and of acceptable quality to address objectives stated in Section 5.1.1.

Field QA/QC

QA/QC measures for quantitative and qualitative data collected during quadrat surveys included the following:

- Field survey data sheets were checked and cross-validated in the field.
- Taxonomic identifications, including common and species name, were verified using references[12].
- Dive survey video, photographs and datasheets were saved to a laptop computer and external hard drive at the end of each field day. Once in the office, the survey data were uploaded to an internal SharePoint site.

[12] References used during the surveys included but were not limited to: Coad and Reist 2018; Golder 2021, 2022; Küpper et al. 2016; Guiry and Guiry 2025; Saunders 2023; WoRMS 2025; WSP 2023, 2024.

Laboratory and Data Analysis QA/QC

The following QA/QC measures were implemented:

- Taxa common name/species name and recorded observations were verified using references.
- Transcribed diver-collected data was reviewed for transcription errors by a second biologist.
- Calculations were verified by a second biologist for errors as part of the data review process.

5.4 Results

This section presents results from the 2024 quadrat sampling program at Milne Port, with a quantitative comparison to 2021, 2022 and 2023 data. Representative photographs are provided in Appendix 5B. Quadrat/transect data in tabulated form are presented in Appendix 5C for 2021 through 2024. Results of statistical analysis of substrate macroalgae, and benthic epifauna endpoints are provided in Table 5-3, with post hoc pairwise comparison results provided in Table 5-4. A taxa list with common and scientific names is provided in Appendix 5D. Taxonomic results in relation to the objective of monitoring for non-indigenous species are presented in Chapter 8.0 (NIS/AIS). Power analysis methods and results are provided in Appendix 5E.

5.4.1 Substrate

Substrate Composition

Substrate, as visually estimated by the divers using a modified Wentworth scale (Wentworth, 1922), was composed predominantly of soft substrate (silt and sand; Figure 5-3) for quadrats in both the exposure and reference areas, as observed in previous years (Figure 5-4). Quadrats Q3 and Q13 within the exposure area contained mainly sand (65 – 70%) while quadrats Q4, Q14, and Q23 in the exposure area and quadrats Q24, Q25, and Q26 in the reference area contained nearly equal amounts of sand and silt. Silt was more dominant in the other quadrats within both areas (Appendix 5C).

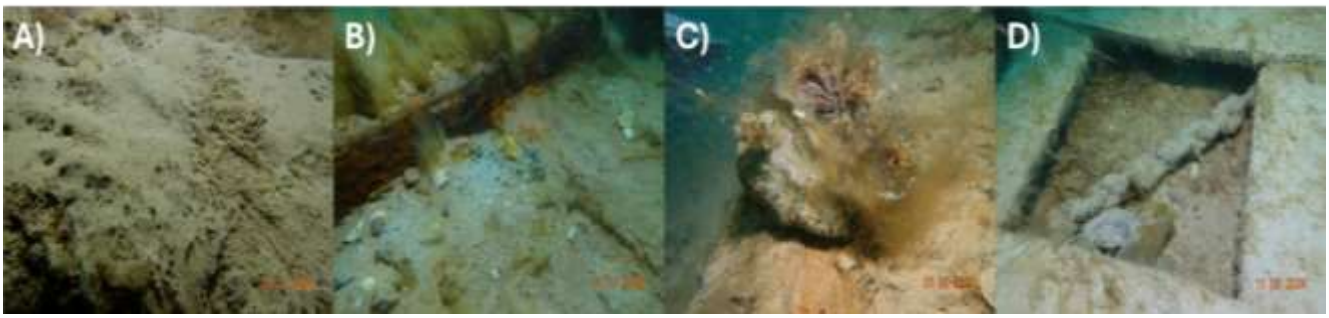


Figure 5-3: Substrate Types Observed in Survey Quadrats at Milne Port, Showing Areas Dominated By: A) Soft Substrate (Sand/Silt); B) Gravel; C) Cobble; and D) Anthropogenic Debris (e.g., chain and rust).

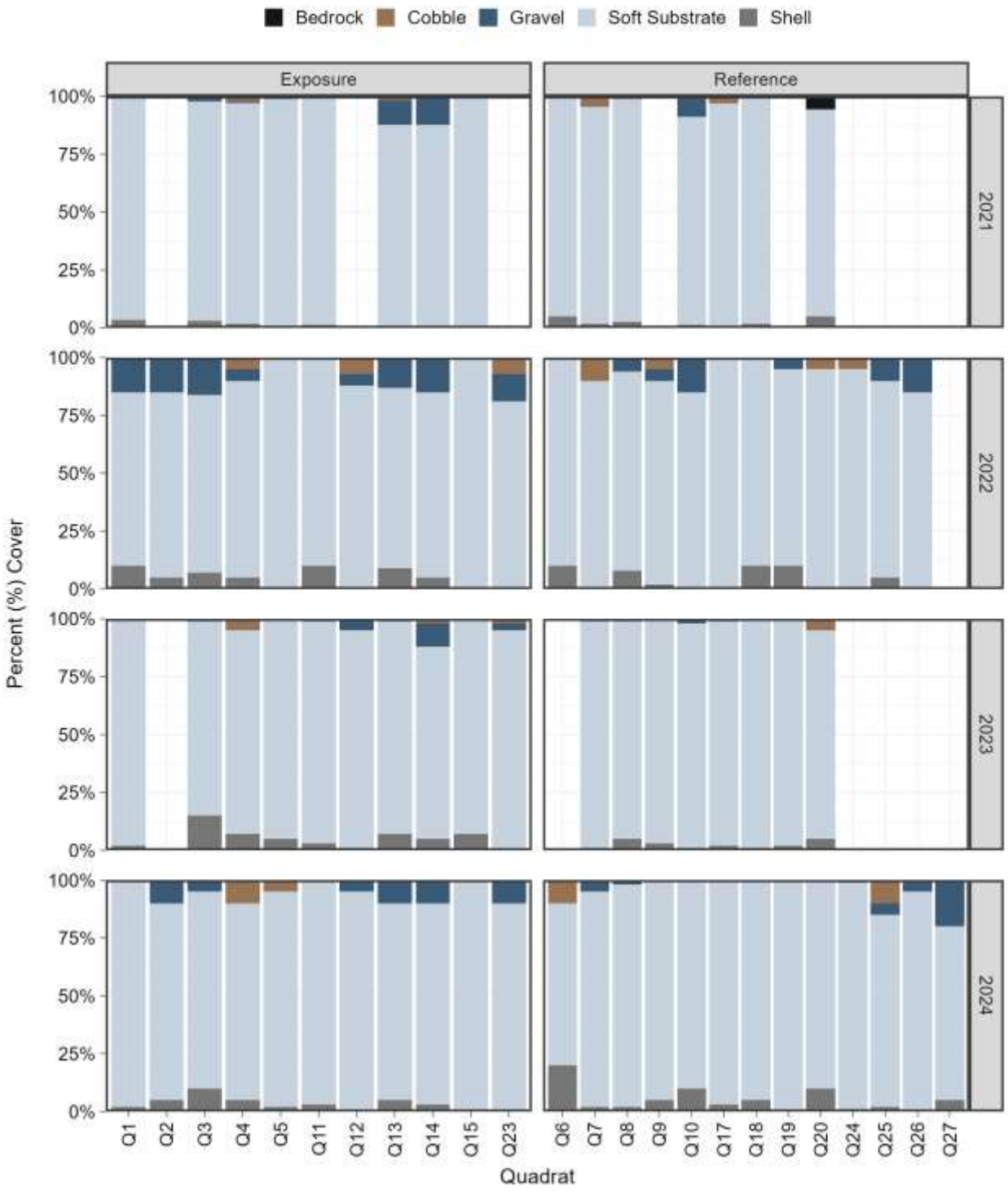


Figure 5-4: Relative Abundance of Substrate Types from Quadrats Surveyed during Quadrat Surveys in Milne Port, 2021 – 2024.

Note: Only quadrats sampled in 2024 are represented throughout the years.

Other substrate types present in small proportions within each area in 2024 included gravel (0 to 20%), cobble (0 to 10%), and shell (0 to 20%) (Figure 5-3B and C; Figure 5-4). Consistent with 2022 and 2023 results, bedrock was not observed within the quadrats in 2024.

Soft substrate cover varied significantly among sampling years (P=0.011), while neither the interaction nor the main effect of area was significant (P>0.3 for both; Table 5-3). That is, soft substrate was not found to differ between areas, and interannual differences in soft substrate cover did not differ between the reference and exposure areas (Figure 5-5; Table 5-3).

In pairwise comparisons between years within each area, effect sizes ranged from -51% to +125%; the only significant difference was between 2021 and 2022 in the exposure area, where soft substrate cover in 2021 was 125% higher than in 2022 (P=0.022; Table 5-4). In 2024, soft substrate cover was 14% higher in the exposure area compared to the reference area but the difference was not significant (P=0.7; Table 5-4).

In the analysis of soft substrate, statistical power was sufficient to detect a significant year and area interaction at effect sizes of -50% and +120% (Appendix 5E). That is, when the 2024 exposure area had mean soft substrate content that was 50% lower or 120% higher than the 2024 reference area, the model could detect a significant interaction between year and area. There was not sufficient power to detect the interaction given the 2024 effect size. The model had higher power to detect decreases than increases in soft substrate, due to the high values of soft substrate observed and the bounding of the variable by 0% and 100%.

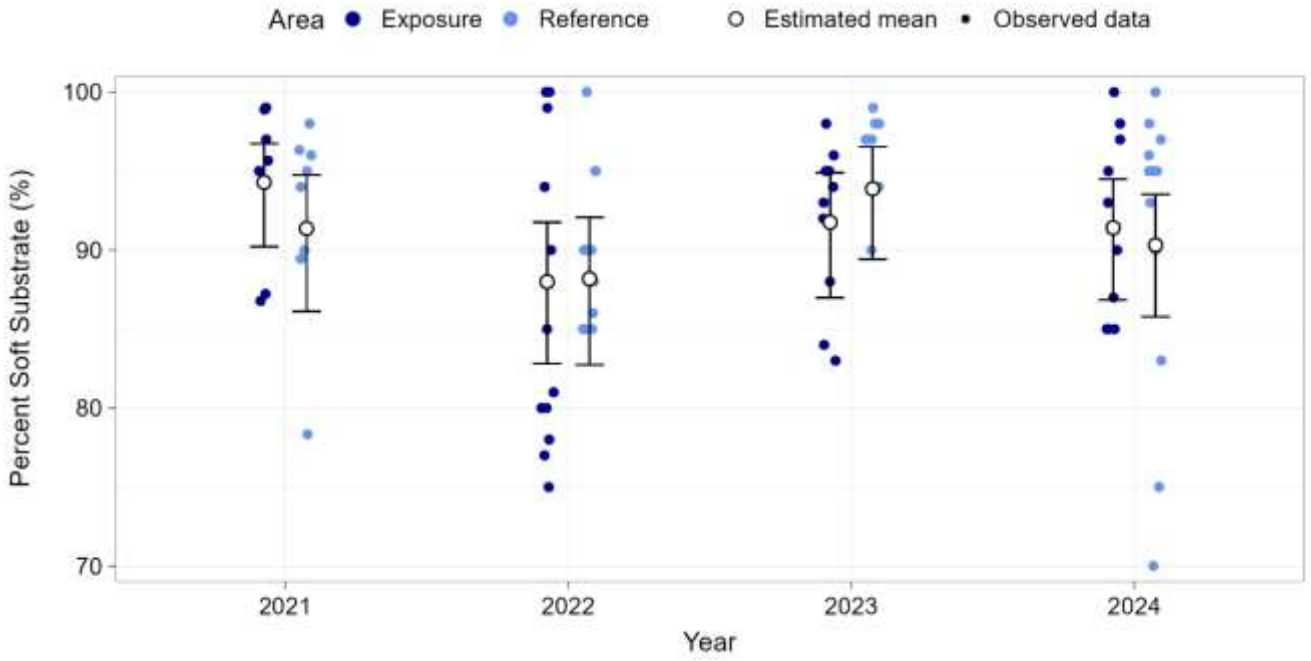


Figure 5-5: Interannual Differences in Soft Substrate Percent Cover in Milne Port, 2021 – 2024.

Note: Soft substrate includes sand and silt. Observed (solid points) and estimated marginal mean percent cover (open points) and 95% confidence interval (error bars) are presented for each sampling area and year.

Table 5-3: Results of Generalized Linear Mixed Models for Substrate, Macroalgae, and Benthic Epifauna in Milne Port, 2021 – 2024

Indicator	Variable	Chi square	DF	P-value
Substrate Composition				
Percent soft substrate	Year	11.13	3	**0.011**
	Area	0.05	1	0.819
	Year × Area	3.16	3	0.368
Macroalgae				
Percent Cover	Year	33.29	3	**<0.001**
	Area	2.20	1	0.138
	Year × Area	7.53	3	0.057
Taxa Richness	Year	32.24	3	**<0.001**
	Area	1.82	1	0.177
	Year × Area	1.38	3	0.710
Simpson's Diversity Index[(b)]	Year	28.66	3	**<0.001**
	Area	0.28	1	0.599
	Year × Area	7.43	3	0.059
Sessile Epifauna				
Percent Cover[(b)]	Year	9.31	3	**0.025**
	Area	1.01	1	0.315
	Depth[a]	5.71	2	0.057
	Year × Area	5.99	3	0.112
Taxa Richness	Year	15.83	3	**0.001**
	Area	3.15	1	0.076
	Depth[a]	12.53	2	**0.002**
	Year × Area	0.10	3	0.991
Simpson's Diversity Index[(b)]	Year	15.26	3	**0.002**
	Area	1.19	1	0.274
	Soft Substrate	5.76	1	**0.016**
	Year × Area	1.67	3	0.644
Motile Epifauna				
Density[(b)]	Year	22.09	3	<0.001
	Area	0.06	1	0.804
	Depth[a]	46.68	2	**<0.001**
	Year × Area	18.33	3	**<0.001**

Indicator	Variable	Chi square	DF	P-value
Taxa Richness	Year	5.82	3	0.121
	Area	0.00	1	0.993
	Depth	28.49	1	**<0.001**
	Year × Area	5.10	3	0.164
Simpson's Diversity Index	Year	2.10	3	0.552
	Area	0.04	1	0.849
	Depth	3.13	1	0.077
	Year × Area	2.71	3	0.439

Note: Cells highlighted in **blue** indicate statistically significant results (*P*-value <0.05); where the interaction between year and area is significant, the significance of the main effects is not interpretable and main effect cells are not highlighted. DF = degrees of freedom.

(a) Indicates a variable that was modelled using natural splines in order to account for non-linearity.

(b) Datapoints were excluded from the model due to outliers or influence.

Table 5-4: Post hoc Comparisons of Estimated Marginal Means and Effect Sizes for Generalized Linear Mixed Models for Substrate, Macroalgae, and Benthic Epifauna in Exposure and Reference Areas of Milne Port, 2021 – 2024

Indicator[1]		*Post hoc* Comparison[2]					
		2021-2022	2021-2023	2021-2024	2022-2023	2022-2024	2023-2024
Exposure Area							
Soft Substrate	**% Cover**	**0.022 (125%)**	0.548 (48%)	0.427 (55%)	0.331 (-34%)	0.367 (-31%)	0.998 (5%)
Macroalgae	**% Cover**	0.479 (-41%)	0.508 (-40%)	**0.009 (-69%)**	1.000 (3%)	0.204 (-47%)	0.180 (-48%)
	Taxa Richness	0.707 (36%)	0.703 (-25%)	0.348 (-34%)	0.085 (-44%)	**0.012 (-51%)**	0.920 (-13%)
	SDI	0.952 (-15%)	0.328 (-42%)	0.195 (-47%)	0.571 (-31%)	0.374 (-38%)	0.989 (-9%)
Sessile Epifauna	**% Cover**	0.987 (10%)	0.859 (-21%)	0.477 (57%)	0.619 (-28%)	0.607 (43%)	0.102 (98%)
	Taxa Richness	0.050 (77%)	0.990 (7%)	0.976 (9%)	0.097 (-40%)	0.101 (-39%)	1.000 (2%)
	SDI	0.834 (38%)	0.895 (-24%)	0.155 (-57%)	0.302 (-45%)	**0.005 (-69%)**	0.388 (-44%)
Motile Epifauna	**Density**	0.140 (54%)	**0.022 (89%)**	**0.001 (149%)**	0.805 (23%)	0.211 (62%)	0.729 (32%)
	Taxa Richness	0.978 (14%)	0.750 (-28%)	0.773 (43%)	0.380 (-37%)	0.910 (25%)	0.174 (98%)
	SDI	0.825 (69%)	0.941 (-31%)	0.890 (60%)	0.308 (-59%)	1.000 (-5%)	0.451 (132%)
Reference Area							
Soft Substrate	**% Cover**	0.586 (42%)	0.691 (-31%)	0.971 (13%)	0.087 (-51%)	0.767 (-20%)	0.355 (64%)
Macroalgae	**% Cover**	**0.003 (-78%)**	**<0.001 (-87%)**	**<0.001 (-91%)**	0.343 (-42%)	**0.013 (-59%)**	0.714 (-29%)
	Taxa Richness	0.110 (88%)	0.771 (-21%)	0.126 (-38%)	**0.006 (-58%)**	**<0.001 (-67%)**	0.628 (-22%)
	SDI	0.150 (98%)	0.771 (-28%)	0.061 (-56%)	**0.012 (-64%)**	**<0.001 (-78%)**	0.455 (-39%)
Sessile Epifauna	**% Cover**	0.278 (-44%)	**0.008 (-64%)**	0.212 (-45%)	0.441 (-35%)	1.000 (-1%)	0.379 (53%)
	Taxa Richness	**0.040 (74%)**	0.933 (13%)	0.883 (15%)	0.189 (-35%)	0.166 (-34%)	1.000 (1%)
	SDI	1.000 (-3%)	0.456 (-44%)	0.282 (-48%)	0.464 (-42%)	0.197 (-46%)	0.997 (-7%)
Motile Epifauna	**Density**	**<0.001 (383%)**	0.571 (44%)	0.172 (78%)	**0.002 (-70%)**	**0.014 (-63%)**	0.886 (24%)
	Taxa Richness	0.105 (107%)	0.961 (18%)	0.997 (6%)	0.402 (-43%)	0.134 (-49%)	0.986 (-10%)
	SDI	0.831 (67%)	0.804 (69%)	0.995 (15%)	1.000 (2%)	0.913 (-31%)	0.885 (-32%)

Indicator[1]		*Post hoc* Comparison[2]					
		2021-2022	2021-2023	2021-2024	2022-2023	2022-2024	2023-2024
Within 2024: Exposure-Reference							
Soft Substrate	**% Cover**	0.689 (14%)					
Macroalgae	**% Cover**	0.090 (-57%)					
	Taxa Richness	0.145 (-24%)					
	SDI	0.313 (-29%)					
Sessile Epifauna	**% Cover**	0.085 (-48%)					
	Taxa Richness	0.410 (-14%)					
	SDI	0.995 (0%)					
Motile Epifauna	**Density**	0.281 (-32%)					
	Taxa Richness	0.118 (-40%)					
	SDI	0.446 (-34%)					

Note: Cells highlighted in **blue** indicate statistically significant results (*P*-value <0.05). Pairwise comparisons were conducted for (1) between years within areas and (2) between areas within a year (2024), to describe effect sizes.

[1] Soft substrate refers to soft substrate composition.

[2] Values are shown as: *P*-value (Effect Size, %). SDI = Simpson's Diversity Index; % = percent. Effect sizes, e.g., for Year1-Year2, were calculated as follows: ([Year1 / Year2] – 1)×100% using marginal means on the response scale for richness and motile epifauna counts, and on the odds scale for percent cover and SDI.

Detritus and Debris

A detrital veneer, consisting of plankton with silt and/or diatoms, was present at most quadrats in 2024, consistent with previous years' results (Figure 5-6A). The percent cover range was similar between areas but slightly wider within the exposure area, similar to 2023 (exposure area: 0 to 100% vs. reference area: 0 to 80%). Notably, Q23 appeared to have high cover of detrital veneer with a large silt component over most of the quadrat, which may have impeded colonization of other epiflora and fauna (Appendix 5D – Photo 4). Overall, the percent detrital veneer in 2024 was similar to 2023, with both years being increased from 2022 and 2021 surveys.

Detrital (or drift) macroalgae was present in three-quarters of the quadrats (Figure 5-6B), with the reference area having a higher average percent cover of detrital algae compared to the exposure area (consistent with previous years' results). Moreover, quadrats generally had higher detrital macroalgae cover in 2024 compared to previous years within the reference area. Highest percent cover was recorded in Q26, Q7, and Q24 (with 60%, 50%, and 40%, respectively). Overall, the percent detrital algae increased in 2024 compared to the previous years.

Other debris consisted of metal pieces (Figure 5-3D) from the deployment chain strung through the quadrat to maintain the NIS/AIS monitoring settlement plate (Chapter 8.0) above the 2020-deployed quadrats (Q1 through Q10)[13], rust pieces from the quadrat's steel frame, aluminum piping from the belt transects observed in Q5 that has been observed every survey year since 2020, and a fish skeleton noted in Q9 in 2024 (Figure 5-6C). Overall, the percent of debris in 2024 was comparable to previous years.

[13] Quadrats deployed in later years did not use chain as part of the experimental design.

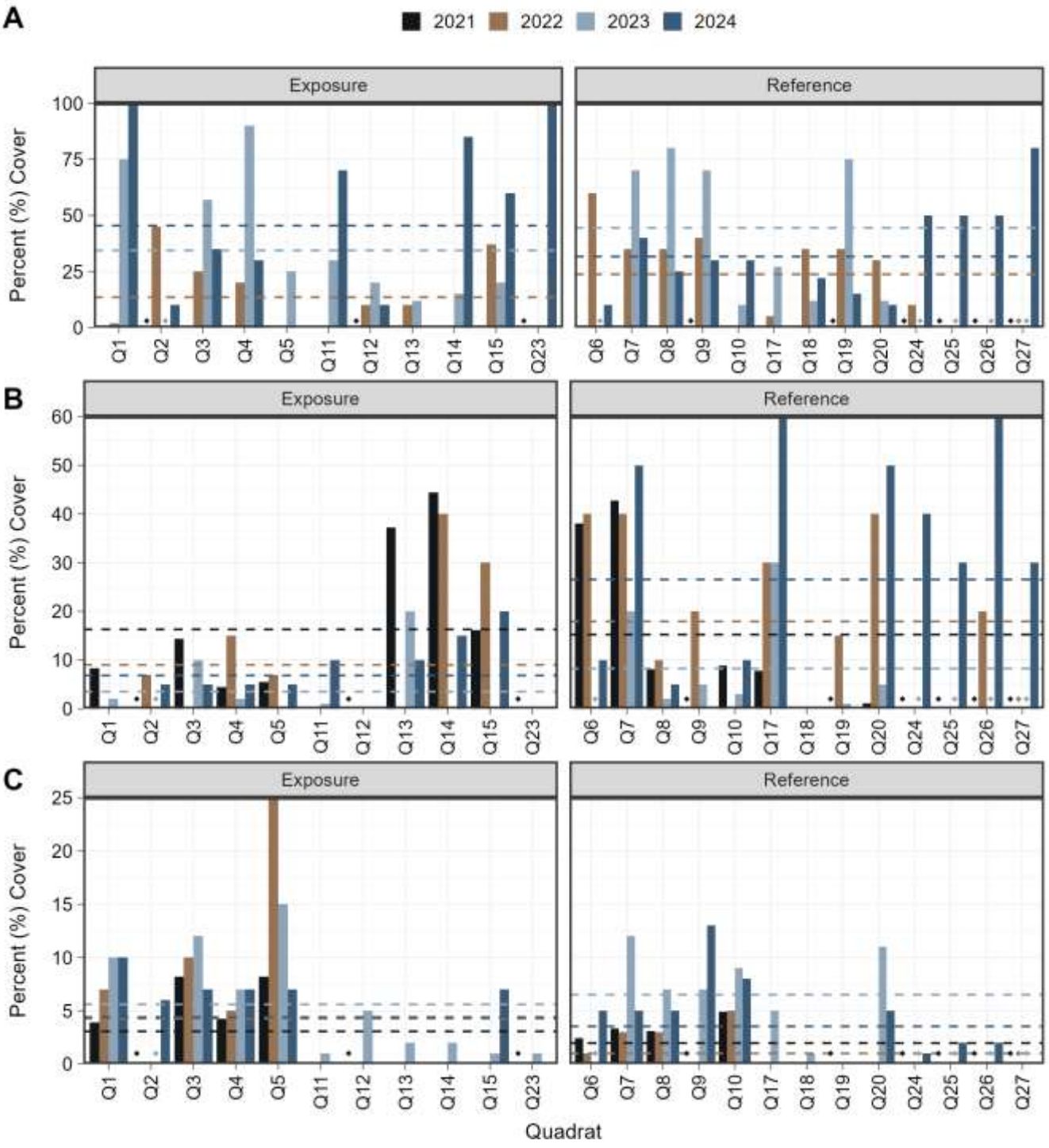


Figure 5-6: A) Total Percent Cover of Detrital Veneer, B) Detrital Macroalgae, and C) Other Anthropogenic Debris from Quadrats Surveyed during Quadrat Surveys in Milne Port, 2021 – 2024.

Note: Only quadrats sampled in 2024 are represented throughout the years. Dashed lines represent the mean percent cover for the exposure and reference quadrats for each year and diamonds represent years in which individual quadrats were not sampled.

5.4.2 Macroalgae

Macroalgae identified in quadrats belonged to three larger taxonomic groups: Ochrophyta (brown algae), Rhodophyta (red algae), and Chlorophyceae (green algae) (Appendix 5C). There were no taxa new to the survey collected within quadrats in 2024.

Brown algae were resolved to eight distinct taxa in 2024, five of which were defined to species level: sugar kelp (*Saccharina latissima*), rockweed (*Fucus distichus*), brown filamentous algae *Halosiphon tomentosus*, brown branched algae *Dictyosiphon foeniculaceus*, and brown branched algae *Stictyosiphon tortilis* (Appendix 5B – Photos 5 to 6). The other three brown algae were identified to genus level - *Pylaiella* sp., acid weed (*Desmarestia* sp.), and brown branched algae *Battersia* sp. (Appendix 5B – Photos 7 to 8). Red algae observed within the quadrats that could be identified to the species level were *Coccotylus truncatus, Savoiea arctica*, and *Phycodrys fimbriata* (Appendix 5B – Photos 6, 9, and 10). Other red algae observed included encrusting coralline algae (Order Corallinales) and red filamentous algae *Polysiphonia* sp. (Appendix 5C). Green algae comprised two species, *Chaetomorpha melagonium* and *Spongomorpha aeruginosa* (Appendix 5B – Photos 11 and 12), while others were unidentified filamentous green algae. Three macroalgae taxa observed in previous years (2021 to 2023) were not observed in 2024, including sieve kelp (*Agarum clathratum*), brown filamentous algae *Coelocladia arctica*, and red foliose *Dilsea socialis* (Appendix 5C; Golder 2022; WSP 2023, 2024).

Percent Cover

Macroalgae percent cover varied greatly among quadrats in both the exposure and reference areas (Figure 5-7). The exposure area percent cover ranged from 2 to 75% in individual quadrats while the reference area ranged from 20 to over 100% (when accounting for epiphytic algae [corrected to 100% for analyses]). Q15 in the exposure area had the highest percent cover (75%), followed by Q11 (58%) while the other quadrats in the exposure area were all below 55%. Half of the quadrats surveyed within the reference area in 2024 contained coverage greater than 50%, resulting in a higher average percent cover compared to the exposure area. Percent cover in the exposure area in 2024 was nearly double that of any previous year (2024 = 40.1%, 2023 = 23.8%; 2022 = 23.9%; 2021 = 17.8%) and percent cover in the reference area showed a trend of increasing cover from 18.2% in 2021 to 55.0% in 2024 (Table 5-5).

Quadrat Q12 had the lowest macroalgae cover (2%) of quadrats surveyed. During the survey, the quadrat appeared to be partially buried in the soft substrate, with a portion of the quadrat frame and bars not visible at the surface (Appendix 5B – Photo 13). Due to its location near West Beach and the Ore Dock, this quadrat may be impacted by tug wash and ship movement or by natural movements of sediment, either of which might impede macroalgae and epifaunal attachment and colonization.

The most abundant (by coverage) macroalgae type in 2024 was brown algae (acid weed) and ephemeral *Pylaiella* sp. across both areas (Table 5-5; Figure 5-7). Rockweed was present in high abundance within the reference area. Sugar kelp, *C. melagonium*, and *S. arctica* were also present in lower proportions in several quadrats in both areas. Overall, relative abundance of major algae classifications was comparable between years; however, sugar kelp appeared to increase in abundance in 2024 compared to previous years in both areas while *Pylaiella* sp. appeared to increase in abundance in 2024 in the reference area compared to previous years (Figure 5-7).

Macroalgae percent cover increased over time in both exposure and reference areas, although the increase was steeper and more consistent for the reference area compared to the exposure area (Figure 5-8). In three of the four sampling years, percent cover was higher in the reference area compared to the exposure area although the data were highly variable. In the analysis of percent cover, mean macroalgae percent cover significantly differed

between years (*P*<0.001) but not between areas (*P*=0.138) with no significant interaction between area and year (*P*=0.057; Table 5-3). Based on multiple comparisons, macroalgae cover in the exposure area was 41–69% lower in 2021 when compared to 2022–2024 (*P*=0.5, *P*=0.5, and *P*=0.009, respectively), and, in the reference area was 78–91% lower in 2021 than 2022–2024 *(P*≤0.003 for all; Table 5-4). Macroalgae cover was 47–69% lower in 2021–2023 when compared to 2024 in the exposure area, although the difference between 2024 and other years was only significant for 2021 (Table 5-4). In the reference area, macroalgae cover was 29–91% lower in 2021–2023 than in 2024, although the difference between 2024 and other years was only significant for 2021 and 2022 (Table 5-4).

In the analysis of macroalgal percent cover, there was sufficient power (≥0.8) to detect an effect of +270% (i.e., value in exposure area higher than in reference area), but none of the negative effect sizes (i.e., value in exposure area lower than in reference area) (Appendix 5E). When translated into percent cover, a 270% increase means that the percent cover in the exposure area would need to be 84% (compared to the 59% value estimated in the 2024 reference area). The low statistical power was likely due to the high variability in percent cover of macroalgae, leading to high uncertainty and lack of statistical significance.

Diversity

Macroalgae diversity (taxa richness and SDI) was similar between the areas in 2024 but slightly higher within the reference area for both metrics. Taxa richness ranged between one to eight taxa in the exposure area and four to ten taxa in the reference area, and SDI ranged from very low (<0.250) to high (>0.750) in the exposure area but ranged from moderate (0.500 to 0.750) to high (>0.750) in the reference area (Table 5-5; Figure 5-9A). Both taxa richness and SDI means and ranges were higher for their respective areas in 2024 compared to both previous years except for SDI in the exposure area, where the mean value decreased slightly from 0.632 to 0.600 (Figure 5-9B; Golder 2022; WSP 2023, 2024).

Macroalgae mean taxa richness increased over time in both areas from a series low in 2022; in all years except 2022, taxa richness was higher in the reference area compared to the exposure area (Figure 5-8). Macroalgae taxa richness significantly differed between years (*P*<0.001) but not between areas (*P*=0.177) with no significant interaction between area and year (*P*=0.710; Table 5-3). Based on multiple comparisons, macroalgae taxa richness in 2022 was 26–51% lower than in 2021, 2023, and 2024 in the exposure area (*P*=0.012 for 2024, *P*>0.08 for all others), and 47–67% lower than in 2021, 2023, and 2024 in the reference area (P=0.1 for 2022 and P≤0.006 for 2021 and 2024 (Table 5-4). Compared to 2024, macroalgae taxa richness was 13-51% lower in 2021–2023 in the exposure area and 22–67% lower in 2021–2023 in the reference area, although the comparisons were only significant for 2022 in both areas (Table 5-4; Figure 5-8).

In the analysis of macroalgal species richness, statistical power was sufficient to detect a significant year and area interaction at effect sizes of -62% or +80% (Appendix 5E). That is, when the 2024 exposure area had mean macroalgae richness 62% lower or 80% higher than the 2024 reference area, the model could detect a significant interaction between year and area. When translated into richness values, this means that in the exposure area, there would need to be an average of 2.2 macroalgae species or an average of 10.5 macroalgae species (compared to the 5.9 value estimated in the 2024 reference area). The observed effect size (-24%) did not have sufficient power.

Macroalgae SDI in the exposure area increased over time but SDI was variable in the reference area. Macroalgae SDI significantly differed between years (*P*<0.001) but not between areas (*P*=0.599) with no significant interaction between area and year (*P*=0.059; Table 5-3). Macroalgae SDI was 29% lower in the exposure area than in the

reference area (*P*>0.1) in 2024 (Table 5-4; Figure 5-8). In the exposure area, macroalgae SDI was 15–47% lower in 2021 when compared to 2022–2024 (*P*>0.1 for all years) and SDI was 9-47% lower in 2021–2023 when compared to 2024 (P>0.1 for all; Table 5-4; Figure 5-8). In the reference area, macroalgae taxa richness in 2022 was 50–78% lower than in 2021, 2023, and 2024, respectively (*P*>0.1 [2021], *P*=0.012 [2023], *P*<0.001 [2024]; Table 5-4; Figure 5-8). Additionally, in the reference area, macroalgae SDI was 39–78% lower in 2021–2023 when compared to 2024, although the comparison was only significant for 2022 (Table 5-4; Figure 5-8).

In the analysis of macroalgal SDI, statistical power was sufficient to detect a significant year and area interaction at effect sizes of -38% or +240% (Appendix 5E). When translated into SDI values, this means that in the exposure area, macroalgae SDI would need to be an average of 0.6 or 0.893 (compared to the 0.7 value estimated in the 2024 reference area). The observed effect size in 2024 was -29%, and statistical power to detect it was low (<0.7).

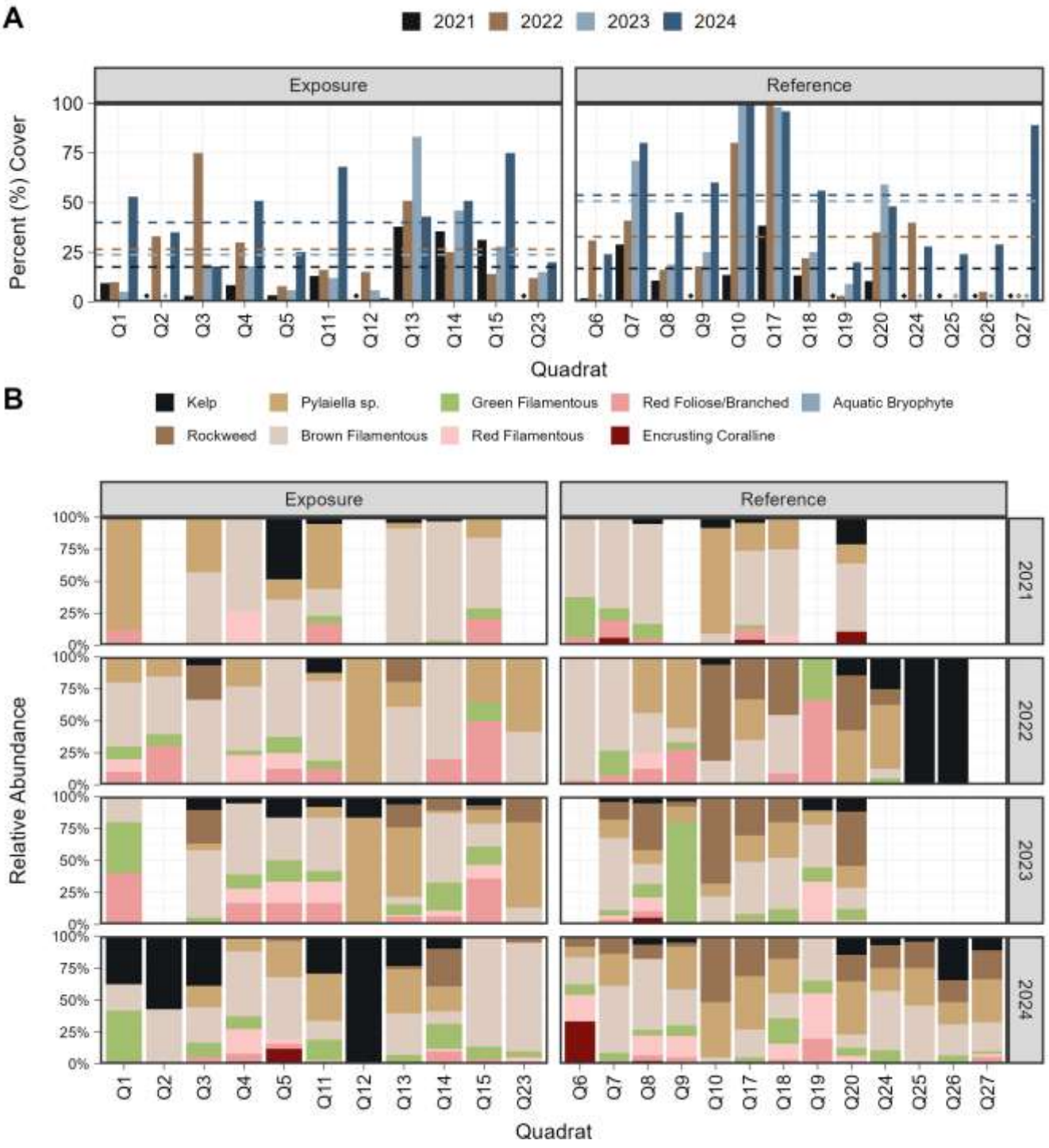


Figure 5-7: A) Total Percent Cover and B) Relative Abundance of Macroalgae Recorded During Quadrats Surveyed in Milne Port, 2021 – 2024.

Note: Only quadrats sampled in 2024 are represented throughout the years. Dashed line in top figure represents the mean percent cover for the exposure and reference quadrats for each year and diamonds represent years in which individual quadrats were not sampled.

Table 5-5: Quadrat Survey Results for Macroalgae in Milne Port (2024)

Survey Area	Quadrat	Macroalgae			
		Total Cover (%)	Taxa Richness	SDI	Dominant Taxa
Exposure	Q1	53	6	0.679	Sugar kelp, *Chaetomorpha melagonium*
	Q2	35	2	0.490	Sugar kelp, acid weed
	Q3	18	5	0.728	Sugar kelp, acid weed
	Q4	51	8	0.697	Acid weed, *Savoiea arctica*
	Q5	25	6	0.672	Acid weed, *Pylaiella* sp.
	Q11	68	6	0.734	*Pylaiella* sp., sugar kelp
	Q12	2	1	0.000	Sugar kelp
	Q13	43	8	0.761	*Pylaiella* sp., acid weed, sugar kelp
	Q14	51	8	0.824	Rock weed, *Pylaiella* sp
	Q15	75	4	0.594	Acid weed, *Dictyosiphon foeniculaceus*
	Q21	-	-	-	-
	Q22	-	-	-	-
	Q23	20	6	0.425	Acid weed
	Mean ± SE	**40.1 ± 6.75**	**5.5± 0.71**	**0.600 ± 0.070**	**Acid weed, sugar kelp, *Pylaiella* sp.**
Reference	Q6	24	7	0.802	Acid weed, *Polysiphonia* sp.
	Q7	80	7	0.667	Acid weed, *Pylaiella* sp., rockweed
	Q8	45	8	0.647	Acid weed, *S. arctica*
	Q9	60	10	0.788	*Pylaiella* sp., acid weed, *S. arctica*
	Q10	116	4	0.545	Rock weed, *Pylaiella* sp
	Q17	96	5	0.683	*Pylaiella* sp., rockweed, acid weed
	Q18	56	8	0.822	*Pylaiella* sp., rockweed, acid weed
	Q19	20	7	0.775	Acid weed, *S. arctica*
	Q20	48	7	0.745	Rock weed, acid weed, *Pylaiella* sp.
	Q24	28	7	0.786	*S. arctica*
	Q25	24	5	0.694	*Halosiphon tomentosus*, *Pylaiella* sp.
	Q26	29	7	0.785	Sugar kelp
	Q27	89	7	0.769	*Pylaiella* sp., rockweed, acid weed
	Mean ± SE	**55.0± 8.74**	**6.8 ± 0.42**	**0.731 ± 0.022**	***Pylaiella* sp., rockweed, acid weed**

Note: SE = Standard error; % = percent; '-' indicates the quadrat was not surveyed in 2024. Simpson Diversity Index (SDI) values are color-coded by category, red = very low (<0.250), blue = low (0.250 to 0.499), yellow = moderate (0.500 to 0.750), green = high (>0.750).

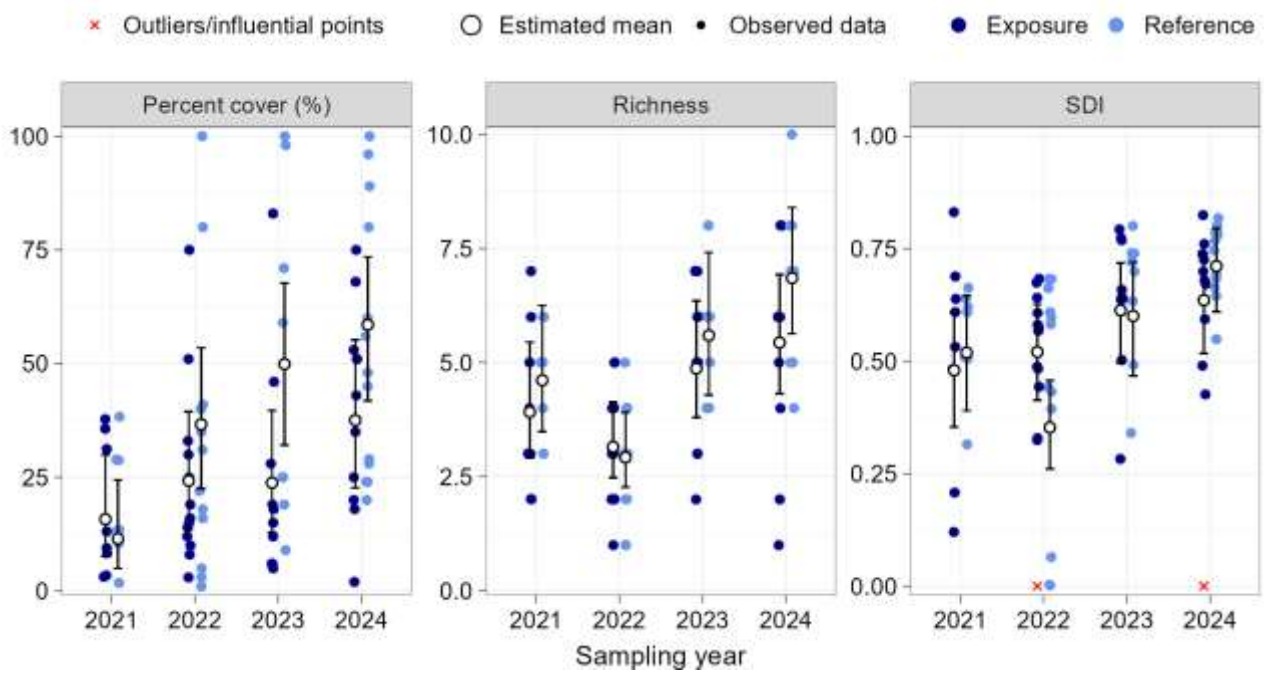


Figure 5-8: Interannual Differences in Macroalgae Percent Cover, Taxa Richness, and Simpson's Diversity Index in Milne Port, 2021 – 2024.

Note: Observed (solid points) and estimated marginal mean percent cover (open points) and 95% confidence interval (error bars) are presented for each sampling area and year.

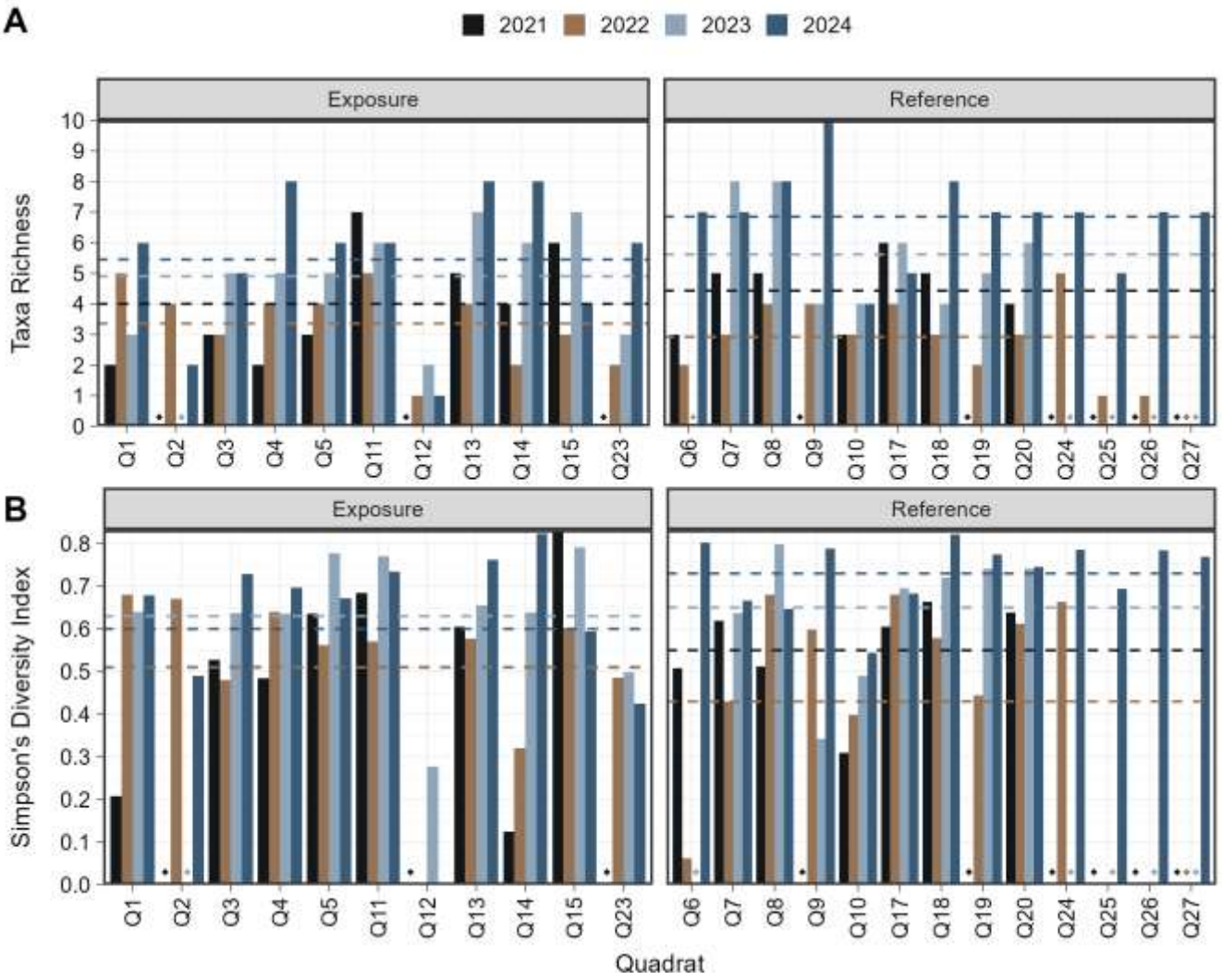


Figure 5-9: A) Taxa Richness and B) Simpson's Diversity Index of Macroalgae Recorded During Quadrat Surveys in Milne Port, 2021 – 2024.

Note: Only quadrats sampled in 2024 are represented throughout the years. Dashed lines represent the mean percent cover for the exposure and reference quadrats for each year and diamonds represent years in which individual quadrats were not sampled.

5.4.3 Benthic Epifauna

Benthic epifauna identified in the quadrats in 2024 belonged to six phyla: Annelida, Arthropoda, Cnidaria, Chordata, Echinodermata, and Mollusca. All observed taxa had been previously reported from the Milne Port area (i.e., overall area encompassing both exposure and reference areas); however, observed taxa recorded for the first time during quadrat surveys were previously observed during benthic infauna surveys, including spaghetti worm (Family Terebellidae), Greenland cockle (*Serripes groenlandicus*), nut clam (*Nuculana* sp.), and scale worm identified to species level (*Harmothoe imbricata*; Appendix 5B – Photo 14).

The majority of species identified in the quadrats belonged to the phylum Mollusca, with nine taxa identified to species level: wrinkled rock-borer clam (*Hiatella arctica*), blunt gaper clam (*Mya truncata*), Icelandic scallop (*Chlamys islandica*), discord mussel (*Musculus discors*), Greenland scallop (*Similipecten greenlandicus*),

Northern Astarte (*Astarte borealis*), Greenland cockle, nut clam, and common tortoise limpet (*Testudinalia testudinalis*) (Appendix 5B – Photos 8, 11, 15, and 16). Other molluscs included bushy-backed sea slug (*Dendronotus* sp.) and margarite snail (*Margarites* sp.).

Phylum Annelida was represented by five distinct taxa: cone worm (*Cistenides granulata*), scale worm, spaghetti worm, and two morphologically distinct sabellid polychaetes (Family Sabellidae)[14] (Appendix 5B – Photos 10, 14, and 17). Phylum Arthropoda (subphylum Crustacea) was only represented by the order Amphipoda while phylum Nemertea was represented by one unidentified individual (Appendix 5B – Photo 18). Phylum Echinodermata included brittle stars (Class Ophiuroidea), green urchin (*Strongylocentrotus droebachiensis*), and six-rayed sea star (*Leptasterias* sp.) (Appendix 5B – Photos 19 to 20) and the phylum Cnidaria was represented by burrowing anemone (Subclass Ceriantharia).

Phylum Chordata included one species of tunicate (Subphylum Tunicata) and six distinct fish taxa: Shorthorn Sculpin (*Myoxocephalus scorpius*), Saddled Eelpout (*Lycodes mucosus*), Slender Eelblenny (*Lumpenus fabricii*), Eelblenny (*Lumpenus* sp.), Fish Doctor (*Gymnelus viridis*) (Appendix 5B – Photo 7), and a juvenile Lumpfish (*Cyclopterus lumpus*) (Appendix 5B – Photos 6, 21 to 23).

5.4.3.1 Sessile Epifauna

Wrinkled rock-borer clams (one of the species used for fish health monitoring at Milne Inlet; Chapter 7.0) and cone worms were the dominant sessile epifauna taxa in the majority of quadrats in both areas in 2024, consistent with results from previous years (Table 5-6; Figure 5-10). Blunt gaper clams, sabellid worms, and mussels were also frequently observed in quadrats in both areas. One sessile epifaunal taxon observed in previous years, an orange tunicate (Polycarpa sp.), was not observed in 2024 (Golder 2022; WSP 2023, 2024).

Percent Cover

Total percent cover of sessile epifauna varied among quadrats in both exposure and reference areas but on average was slightly higher in the reference area (19.8 ± 4.8%) than in the exposure area (24.8 ± 5.0%; Table 5-6; Figure 5-10). Sessile cover in the exposure area ranged from 2% (Q15) to 62% (Q4). Total sessile percent cover was lowest in Q15 and Q23 (3%) in the exposure area; Q23 sessile cover has increased annually since the quadrat was deployed in 2022 (0%) while sessile cover in Q15 has been highly variable (2021 = 33.7%, 2022 = 5%, 2023 = 23%; Table 5-6; Appendix 5C). In the reference area, sessile cover ranged from 7% (Q24) to 73% (Q20). Q24 and Q26 (8%) had the lowest sessile cover in the reference area. These quadrats are located in front of a freshwater outflow and have had variable but generally low cover since their deployment in 2022 (Figure 5-10; Appendix 5C).

Sessile epifauna percent cover varied over time in both the exposure and reference areas, but in three of the four sampling years, percent cover was higher in the reference area than the exposure area (Figure 5-8). In the analysis of percent cover, the model that included a non-linear effect of depth as a covariate was the best supported based on AIC and was selected for interpretation. Mean sessile cover significantly differed between years (P=0.025) but not between areas (P=0.315) with no interaction between area and year (P=0.112); the relationship with depth was also not statistically significant (P=0.057) Table 5-3). Within 2024, sessile cover was 48% lower in the exposure area than in the reference area, but the result was not significant (Figure 5-8).

[14] A large tube casing collected in 2022 was identified by the laboratory as *Pista maculata* (Family Terebellidae); however, since this organism was not observed to be alive in the field, it is not completely linked to the large sabellid worm (sp. 2) that has been observed in all years 2021 to 2023.

In the analysis of sessile epifauna percent cover, there was sufficient power (≥0.8) to detect an effect of +275%, but none of the negative effect sizes (Appendix 5E), likely due to the high variability associated with the data (Figure 5-11). When translated into percent cover, a 275% increase means that the sessile percent cover in the exposure area would need to be 60% (compared to the 29% value estimated in the 2024 reference area). The observed effect size in 2024 was -48%, and statistical power to detect the effect was low.

Relative abundance of sessile epifauna also varied between the quadrats but remained within the same ranges between the exposure and reference areas in 2024, as well as being comparable to previous years (Figure 5-10; Appendix 5C). Tunicate and scallop percent cover increased in 2024 compared to previous years while generally clam (e.g., wrinkled rock-borer, blunt gaper) abundance decreased (Figure 5-10).

Diversity

Mean taxa richness was similar between the exposure (4.6 ± 0.6 taxa) and reference areas (5.1 ± 0.4 taxa) in 2024 (Figure 5-12) and both were within the standard error of 2023 results, with the reference area having slightly lower mean taxa richness in 2024 (Figure 5-12). Sessile taxa richness ranged from one to seven taxa in the exposure area and from three to seven taxa in the reference area. In the exposure area, Q15 had the lowest taxa richness, represented only by cone worms, while in the reference area, Q26 and Q27 had the lowest taxa richness, represented by cone worms, sabellid worms, and various bivalve taxa (Appendix 5C). Five quadrats contained the highest number of taxa (seven): Q1 and Q5 in the exposure area and Q6, Q8, and Q20 in the reference area. These quadrats all had higher taxa richness in 2024 compared to 2023, except for Q6, which was not surveyed in 2023 (Appendix 5C).

Sessile epifauna mean taxa richness was variable over time, with the highest mean values in both areas observed in 2021 and the lowest mean values in both areas observed in 2022. Higher taxa richness was observed in the reference area compared to the exposure area in all years (Figure 5-8). In the analysis of taxa richness, the model that included a non-linear effect of depth as a covariate was the best supported based on AIC and was selected for interpretation. Sessile taxa richness significantly differed between years (P=0.001) but not between areas (P=0.076) with no significant interaction between area and year (P=0.991; Table 5-3). Additionally, sessile mean taxa richness had a significant positive non-linear relationship with depth (P=0.002; Table 5-4). Based on multiple comparisons, sessile taxa richness in 2021 was higher than in 2022-2024 in both areas, ranging from 7-77% higher in the exposure area (P>0.3 for all years), and 13-74% higher in the reference area (P>0.8 except in 2021 [P=0.040]; Table 5-4; Figure 5-8). In 2024, richness in the exposure area was 14% lower than in the reference area (P=0.4; Table 5-4).

In the analysis of sessile epifauna richness, there was sufficient statistical power to detect a significant interaction at effect sizes of -68% or +62% (Appendix 5E). That is, when the 2024 exposure area had mean sessile epifauna richness 68% lower or 62% higher than the 2024 reference area, the model could detect a significant interaction between year and area. When translated into richness values, this means that in the exposure area, there would need to be an average of 1.8 sessile species or an average of 9.3 sessile species for detection of a difference (compared to the average of 5.7 sessile species estimated in the 2024 reference area). The observed effect size in 2024 was small (-14%; Figure 5-11).

Values of SDI ranged from very low (<0.250) to high (>0.750) in the exposure area and from low (0.250-0.499) to high (>0.750) in the reference area (Figure 5-12), with only minor differences in mean values between areas (exposure = 0.609±0.070; reference = 0.650±0.029) (Table 5-6). SDI was very low (0.000) for Q15 due to very low abundance of only one taxon (cone worms) and high cover of detrital algae and diatoms within the quadrat (Appendix 5C). SDI was high in Q1 and Q5 within the exposure area and Q6 and Q17 within the reference area due to even abundance of observed taxa (Table 5-6; Appendix 5C).

Sessile epifauna SDI in the reference area slowly increased over time, while in the exposure area SDI was more variable (Figure 5-8). In the analysis of SDI, the model that included the effect of soft substrate composition as a covariate was the best supported based on AIC and was selected for interpretation. Sessile SDI significantly differed between years (*P*=0.002) but not between areas (*P*=0.274) with no significant interaction between area and year (*P*=0.644; Table 5-3). The effect of soft substrate composition was significant (*P*=0.016; Table 5-4). Compared to 2024, sessile epifauna SDI was 44-69% lower in 2021–2023 in the exposure area and 7–48% lower in 2021–2023 in the reference area, although the comparisons were only significant for 2022 in the exposure area (Table 5-4; Figure 5-8).

In the analysis of sessile epifauna SDI, there was sufficient statistical power to detect a significant interaction at an effect size of +155%, but not at any of the examined negative effect sizes, ranging up to -90% (Appendix 5E). That is, the 2024 sessile SDI at the exposure area would have to be 155% higher than the 2024 reference values for the model to have sufficient power to detect a significant interaction. When translated into SDI values, this means that in the exposure area, sessile SDI would need to be an average of 0.810 (compared to the 0.626 value estimated in the 2024 reference area). The observed effect size in 2024 was small (0.3%), and statistical power to detect the effect was low (<0.3).

Table 5-6: Quadrat Survey Results for Sessile Epifauna in Milne Port (2024)

Survey Area	Quadrat	Sessile Epifauna			
		Total Cover (%)	Taxa Richness	SDI	Dominant Taxa
Exposure	Q1	19	7	0.803	Wrinkled rock-borer, cone worm
	Q2	18	6	0.642	-
	Q3	24	4	0.552	Wrinkled rock-borer
	Q4	20	5	0.660	*Mya truncata*, sabellid worm
	Q5	23	7	0.836	*Similipecten greenlandicus*, Icelandic scallop
	Q11	16	5	0.750	Wrinkled rock-borer, sabellid worm
	Q12	9	3	0.568	Wrinkled rock-borer, blunt gaper
	Q13	22	6	0.715	Wrinkled rock-borer, cone worm
	Q14	62	5	0.726	Sabellid worm, cone worm, wrinkled rock-borer
	Q15	2	1	0.000	Cone worm
	Q21	-	-	-	-
	Q22	-	-	-	-
	Q23	3	2	0.444	Tunicate
	Mean ± SE	**19.8 ± 4.8**	**4.6 ± 0.6**	**0.609 ± 0.070**	**Wrinkled rock-borer, cone worm**

Survey Area	Quadrat	Sessile Epifauna			
		Total Cover (%)	Taxa Richness	SDI	Dominant Taxa
Reference	Q6	33	7	0.804	Icelandic scallop, mussel
	Q7	13	5	0.734	Cone worm
	Q8	27	7	0.639	Wrinkled rock-borer, cone worm
	Q9	29	5	0.606	Cone worm, wrinkled rock-borer
	Q10	42	4	0.573	Cone worm, barnacle
	Q17	17	6	0.782	Wrinkled rock-borer, cone worm
	Q18	26	6	0.689	Cone worm, wrinkled rock-borer
	Q19	23	5	0.537	Wrinkled rock-borer
	Q20	73	7	0.710	Wrinkled rock-borer, cone worm, blunt gaper
	Q24	7	4	0.694	Northern astarte, cone worm
	Q25	14	4	0.694	Blunt gaper, cone worm
	Q26	8	3	0.531	Cone worm
	Q27	10	3	0.460	Mussel
	Mean ± SE	**24.8 ± 5.0**	**5.1 ± 0.4**	**0.650 ± 0.029**	**Cone worm, wrinkled rock-borer**

Note: SE = Standard error; % = percent; '-' indicates the quadrat was not surveyed in 2024. Simpson Diversity Index (SDI) values are color-coded by category, red = very low (<0.250), blue = low (0.250 to 0.499), yellow = moderate (0.500 to 0.750), green = high (>0.750).

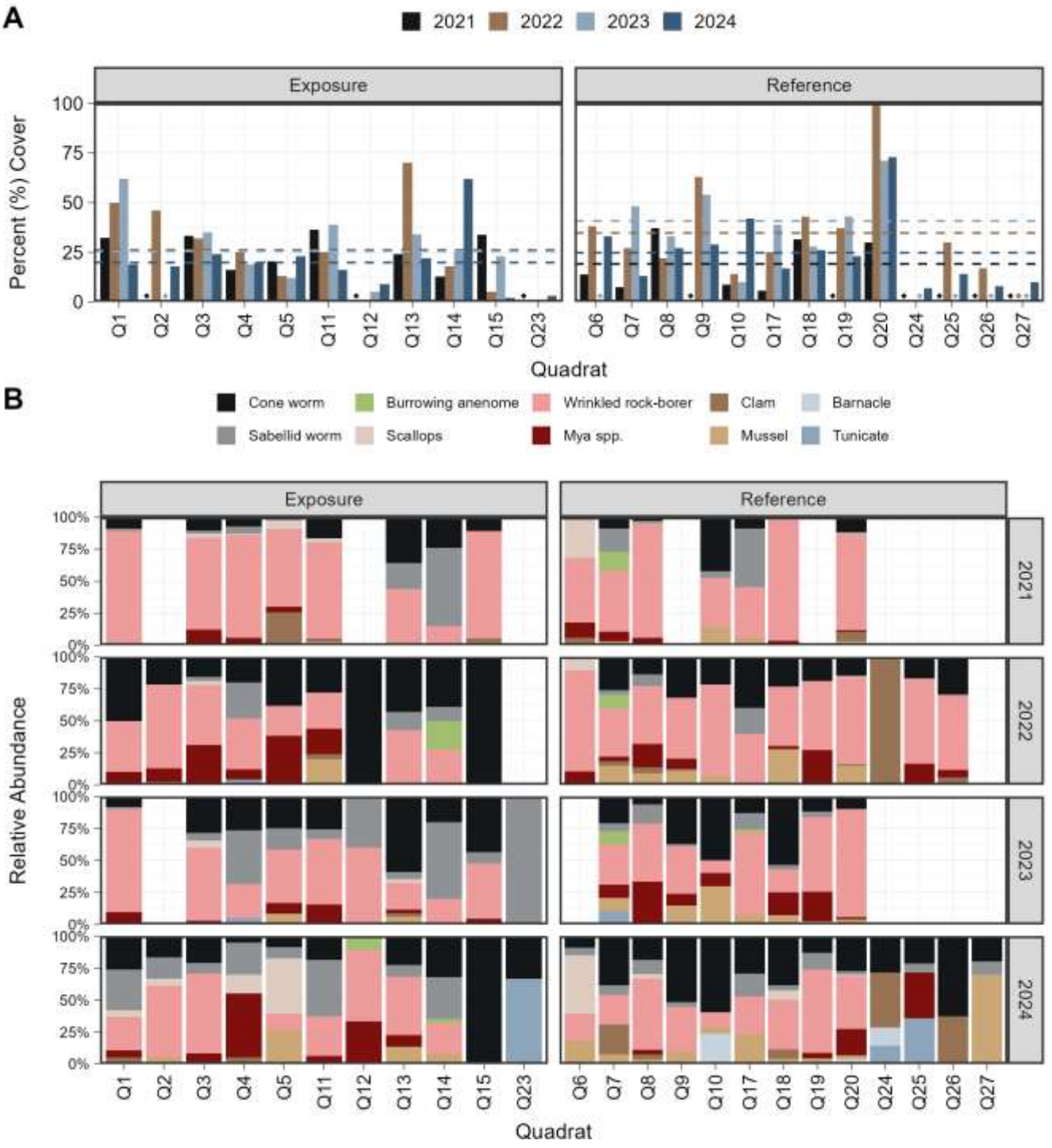


Figure 5-10: A) Total Percent Cover and B) Relative Abundance of Sessile Epifauna Recorded in Quadrats Surveyed During Quadrat Surveys in Milne Port, 2021 – 2024.

Note: Only quadrats sampled in 2024 are represented throughout the years. Dashed line in top figure represents the mean percent cover for the exposure and reference quadrats for each year and diamonds represent years in which individual quadrats were not sampled.

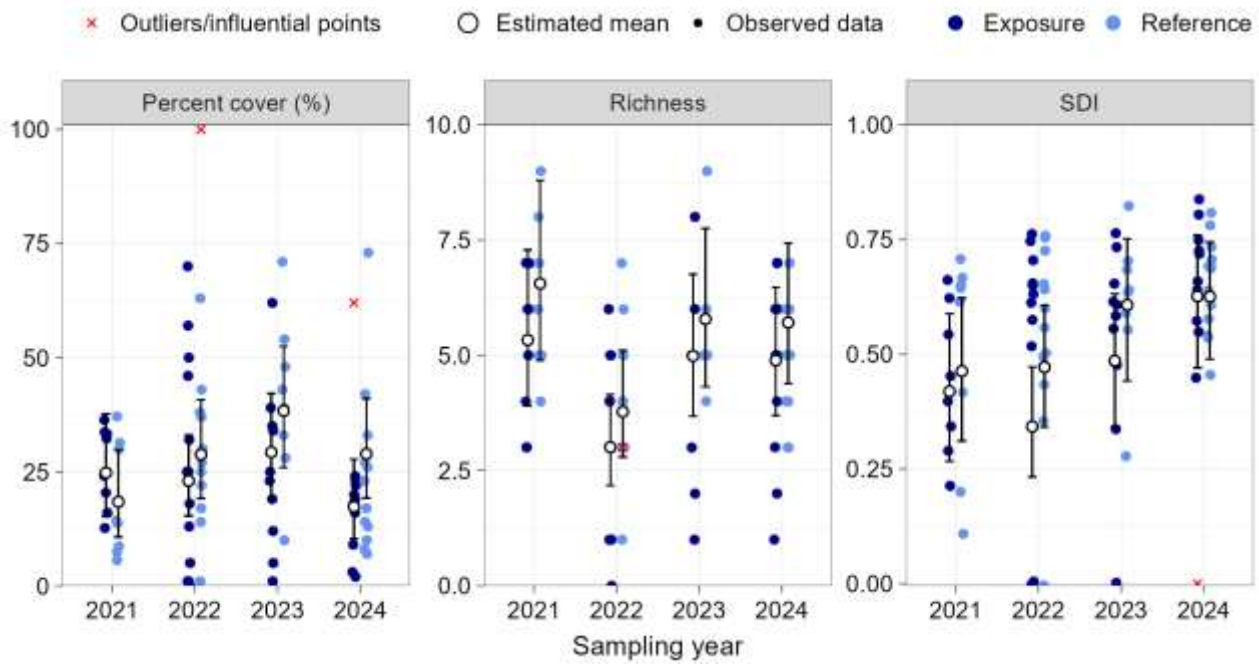


Figure 5-11: Interannual Differences in Sessile Epifauna Percent Cover, Taxa Richness, and Simpson's Diversity Index in Milne Port, 2021 – 2024.

Note: Observed (solid points) and estimated marginal mean percent cover (open points) and 95% confidence interval (error bars) are presented for each sampling area and year.

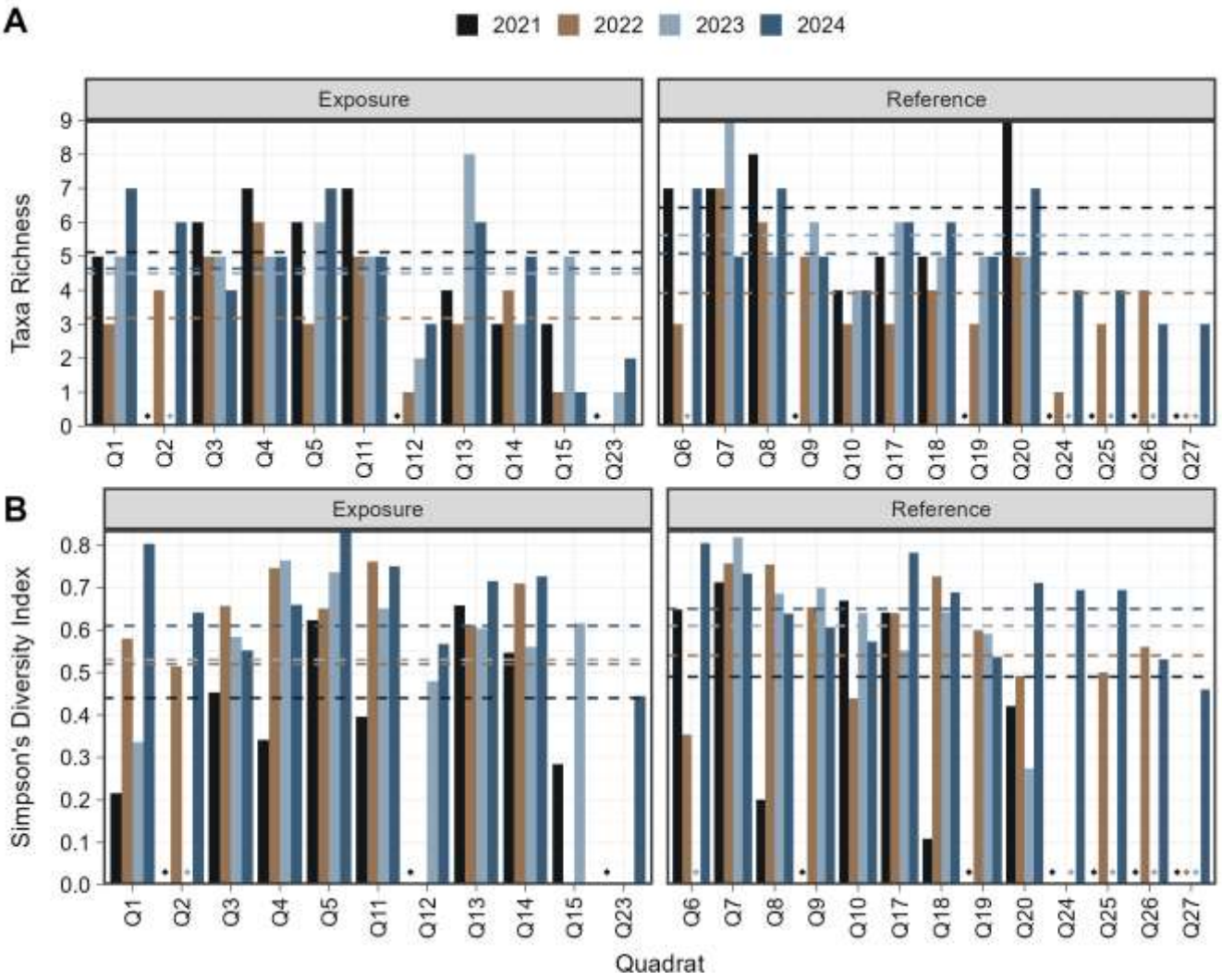


Figure 5-12: A) Taxa Richness and B) Simpson's Diversity Index of Sessile Epifauna Recorded in Quadrats Surveyed During Quadrat Surveys in Milne Port, 2021 – 2024.

Note: Only quadrats sampled in 2024 are represented throughout the years. Dashed lines represent the mean percent cover for the exposure and reference quadrats for each year and diamonds represent years in which individual quadrats were not sampled.

5.4.3.2 Motile Epifauna

Green urchins were the dominant motile epifauna taxa observed in quadrats in the exposure area in 2024, followed by brittle stars. In the reference area, brittle stars, followed by green urchins and Dendronotid nudibranchs were the dominant taxa in the reference area (Table 5-7; Figure 5-13; Appendix 5C). Brittle stars and green urchins that were observed at high densities in 2022 and 2021 but only observed at low densities in 2023 were observed at slightly higher densities in 2024 (Figure 5-13). Shrimp observed at high density in 2023 were rarely observed in 2024, potentially due to interannual variability. Eight distinct motile epifauna taxa observed in previous years (2021 and/or 2022) were not observed in 2023, including polychaetes, flat worms (Phylum Platyhelminthes), whelks (Family Buccinidae), sea cucumbers (Family Holothuroidea), and Fourhorn Sculpin (*Myoxocephalus quadricornis*) (Appendix 5C; Golder 2022; WSP 2023, 2024).

Density

Motile epifauna density in the exposure area was lower in 2024 (4.8 ± 1.3 org/m^2) than in previous years but was higher in the reference area in 2024 (8.8 ± 4.5 org/m^2) compared to 2023 (Table 5-7; Figure 5-13; Appendix 5C). Three quadrats (Q13, Q7, and Q8) contained motile epifauna densities greater than 10 org/m^2, a decrease from six quadrats in 2023 (Figure 5-13; Appendix 5C). Five quadrats (Q2, Q15, Q23, Q10, and Q25) contained no motile epifauna compared to one quadrat (Q23) in 2023 (Table 5-7). Most quadrats contained a single organism from two to three taxa (Appendix 5C).

Density of motile epifauna was highly variable. In the exposure area, density declined over time; in the reference area, density of motile epifauna decreased considerably between 2021 and 2022, followed by a subsequent increase in values and overall similar density between the two areas in 2023–2024 (Figure 5-8). In the analysis of density, the model that included a non-linear effect of depth as a covariate was the best supported based on AIC and was selected for interpretation. The interaction between year and area was significant (P<0.001; Table 5-3), indicating differences in trends of density between the two areas over time. Additionally, motile density had a significant non-linear relationship with depth (P<0.001; Table 5-4), with the highest densities generally found at deeper depths. Pairwise comparisons between years within each area indicated that motile density in the exposure area was lowest in 2024 (24–60% lower than 2021–2023, P>0.09 for all; Table 5-4). In the reference area, 2024 density was the second lowest after 2022; the 2024 mean density was 19% and 44% lower than 2021 and 2023, respectively (P>0.1 for both) and 171% higher than 2021 (P=0.014; Table 5-4). In 2022, when density in the reference area was at its lowest, density at the exposure area was 201% higher than in the reference area (P=0.002); in the remaining years, density at the exposure area was 4–32% lower than at the reference area (P>0.2 for all; Table 5-4).

In the analysis of motile epifauna density, there was sufficient power to detect a significant interaction at all of the examined effects (Appendix 5E). This was due to the large difference between reference and exposure areas in 2022, but not in 2021 (Figure 5-8), which resulted in a high proportion of simulations with a significant interaction between year and area. That is, the interaction term of the model was significant regardless of the simulated 2024 effects.

Diversity

Diversity (taxa richness and SDI) was low overall for motile epifauna in both areas in 2024. Unlike in previous years where taxa richness was similar between areas, in 2024 motile taxa richness ranged from zero to three taxa in the exposure area but ranged from zero to seven taxa in the reference area (Figure 5-15). Q4 and Q13 in the exposure area contained three taxa each while Q6 contained the highest taxa richness in the reference area. SDI values were generally variable in both areas in 2024 (similar to 2023), with areas having either very low (0.000) or moderate (0.500-0.750) SDI with one low site each (Table 5-7). Unlike in 2023, no sites had very high (>0.750) SDI values in 2024 (Figure 5-15). Thirteen of the 24 quadrats (54%) had a SDI of zero, compared to 44% in 2023; these quadrats either lacked motile epifauna (three exposure [Q2, Q15, Q23] and two reference [Q10, Q25] area quadrats) or they contained one or two organisms of a single taxon (four quadrats in each area; exposure = Q1, Q3, Q11, and Q12; reference = Q17, Q18, Q20, and Q24) (Table 5-7; Figure 5-15).

Motile taxa richness was variable within each year but was generally similar between years (Figure 5-8). In the analysis of taxa richness, the model that included the effect of depth as a covariate was the best supported based on AIC. Mean motile taxa richness did not significantly differ between years (P=0.121) or areas (P=0.993) and there was no significant interaction between area and year (P=0.164; Table 5-3). The effect of depth was significant (P<0.001; Table 5-3), wherein motile taxa richness generally increased with depth. In the exposure

area, 2024 mean richness was 20–50% lower than in 2021–2023 (P>0.1 for all). In the reference area, 2024 richness was 6% lower than 2021 but 12–95% higher than 2022 and 2023 (P>0.1 for all). In 2024, motile taxa richness was 40% lower in the exposure area than in the reference area, but the result was not significant (Figure 5-8; Table 5-4).

In the analysis of motile epifauna richness, there was sufficient power to detect a significant interaction at effect sizes of -69% or +190% (Appendix 5E). That is, when the 2023 exposure area had mean motile epifauna richness that was 69% lower or 190% higher than the 2024 reference area, the model could detect a significant interaction between year and area. When translated into richness values, this means that in the exposure area, there would need to be an average of 0.67 motile species or an average of 6.3 motile species (compared to the 2.2 value estimated in the 2024 reference area). The observed effect size in 2024 was -40% (Figure 5-14), and statistical power to detect the effect was low.

Motile epifauna SDI, similar to taxa richness, was highly variable within each year but values were generally similar between years (Figure 5-8). In the analysis of SDI, the model that included the effect of depth as a covariate was the best supported based on AIC. Mean motile SDI did not significantly differ between years (*P*=0.552) or areas (*P*=0.849) with no significant interaction between area and year (*P*=0.439; Table 5-3). Motile SDI generally increased with depth, although the effect was not significant (*P*=0.077; Table 5-4). In the exposure area, 2024 SDI values were 38% and 57% lower than in 2021 and 2023, respectively, but 5% higher than in 2022 (*P*>0.4 for all). In the reference area, 2024 values were 13% lower than 2021 but 45–48% higher than 2022 and 2023 (*P*>0.8 for all). In 2024, motile taxa richness was 34% lower in the exposure area than in the reference area (*P*=0.4).

In the analysis of motile epifauna SDI, there was sufficient power to detect a significant interaction at effect sizes of -80%, but not at the examined positive effect sizes, up to 600% (Appendix 5E). That is, the 2024 motile SDI at the exposure area had to be 80% lower than the 2024 reference values for the model to have sufficient power to detect a significant interaction. When translated into SDI values, this means that in the exposure area, motile SDI would need to be an average of 0.09 (compared to the 0.33 value estimated in the 2024 reference area) for detection of a significant interaction. The observed effect size in 2024 was -34% (Figure 5-14), and statistical power to detect the effect was low. The low power to detect increases in motile epifauna SDI was likely due to the variability associated with the observed data (Figure 5-14).

Table 5-7: Quadrat Survey Results for Motile Epifauna in Milne Port (2024)

Survey Area	Quadrat	Motile Epifauna			
		Density (org/m^2)	Taxa Richness	SDI	Dominant Taxa
Exposure	Q1	2	1	0.000	Shorthorn Sculpin
	Q2	0	0	NA	None
	Q3	2	1	0.000	Six-rayed sea star
	Q4	9	3	0.625	Green urchin, brittle star, Fish Doctor
	Q5	9	2	0.375	Green urchin, six-rayed sea star
	Q11	5	1	0.000	Saddled Eelpout

Survey Area	Quadrat	Motile Epifauna			
		Density (org/m^2)	Taxa Richness	SDI	Dominant Taxa
	Q12	11	1	0.000	Brittle star
	Q13	9	3	0.625	Green urchin, *Dendronotus* sp., Eelblenny
	Q14	5	2	0.500	Saddled Eelpout, Fish Doctor
	Q15	0	0	NA	None
	Q21	-	-	-	-
	Q22	-	-	-	-
	Q23	0	0	NA	None
	Mean ± SE	**4.8 ± 1.3**	**1.3 ± 0.3**	**0.266 ± 0.104**	**Green urchin, brittle star, Saddled Eelpout**
Reference	Q6	62	7	0.562	Brittle star, green urchin
	Q7	5	2	0.500	Brittle star, scale worm
	Q8	11	4	0.720	*Dendronotus* sp., *Margarites* sp., green urchin
	Q9	7	2	0.444	*Dendronotus* sp., Lumpfish
	Q10	0	0	NA	None
	Q17	2	1	0.000	*Dendronotus* sp.
	Q18	5	1	0.000	*Dendronotus* sp.
	Q19	7	3	0.667	Eelblenny, green urchin, amphipod
	Q20	2	1	0.000	*Margarites* sp.
	Q24	2	1	0.000	Shorthorn Sculpin
	Q25	0	0	NA	None
	Q26	3	2	0.500	Brittle star, Shorthorn Sculpin
	Q27	9	3	0.625	Amphipod, Fish Doctor, brittle star
	Mean ± SE	**8.8 ± 4.5**	**2.1 ± 0.5**	**0.365 ± 0.090**	**Brittle star, green urchin, *Dendronotus* sp.**

Note: '-' indicates the quadrat was not surveyed in 2024. Simpson Diversity Index (SDI) values are color-coded by category, red = very low (<0.250), blue = low (0.250 to 0.499), yellow = moderate (0.500 to 0.750), green = high (>0.750). NC = Not calculated due to no motile taxa observed.

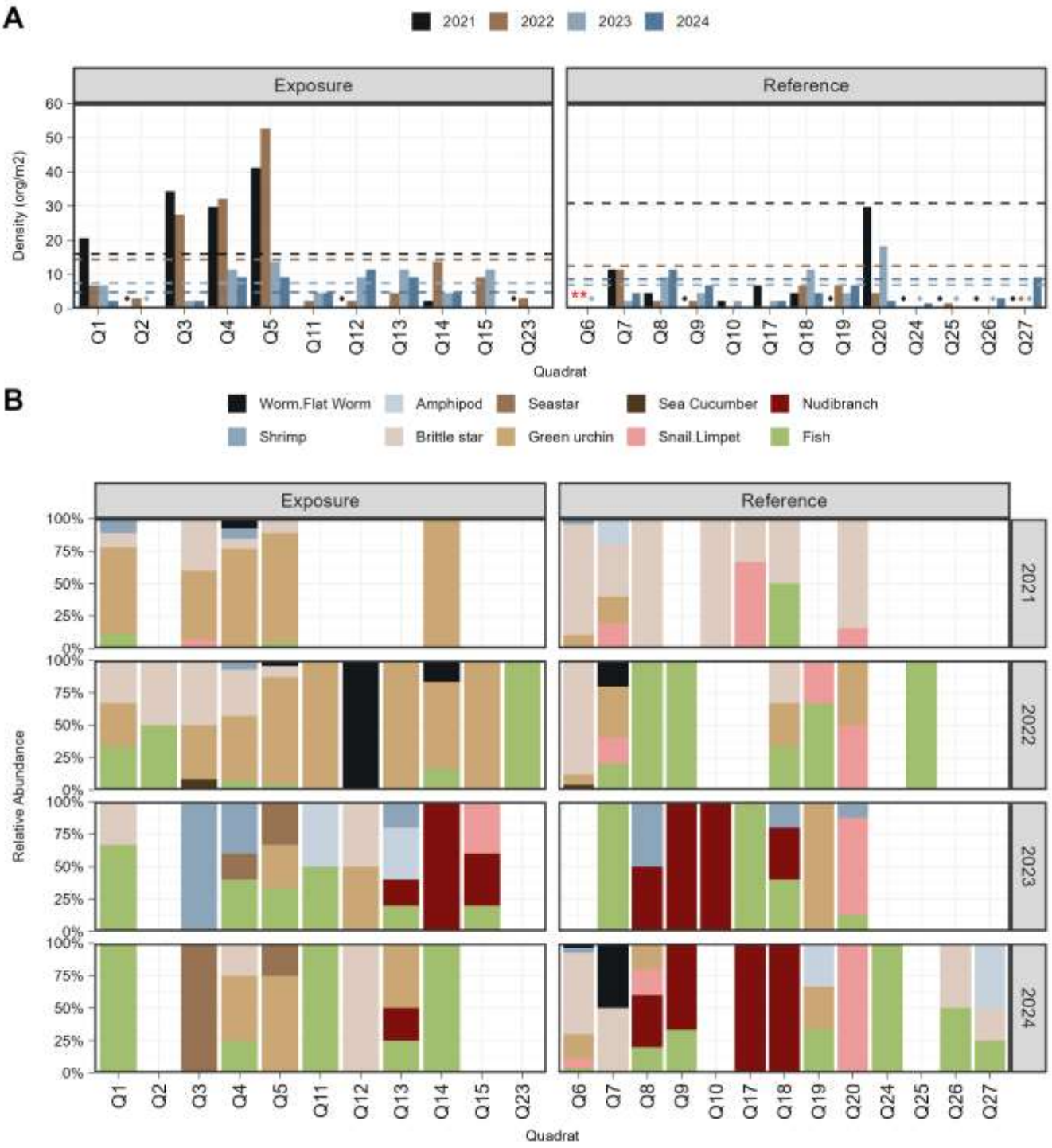


Figure 5-13: A) Total Percent Cover and B) Relative Abundance of Motile Epifauna Recorded in Quadrats Surveyed During Quadrat Surveys in Milne Port, 2021 – 2024.

Note: Only quadrats sampled in 2024 are represented throughout the years. Dashed line in top figure represents the mean percent cover for the exposure and reference quadrats for each year, diamonds represent years in which individual quadrats were not sampled, and red stars indicate data was an outlier (>100 org/m^2) and excluded from the plot for clarity (see Appendix 5C).

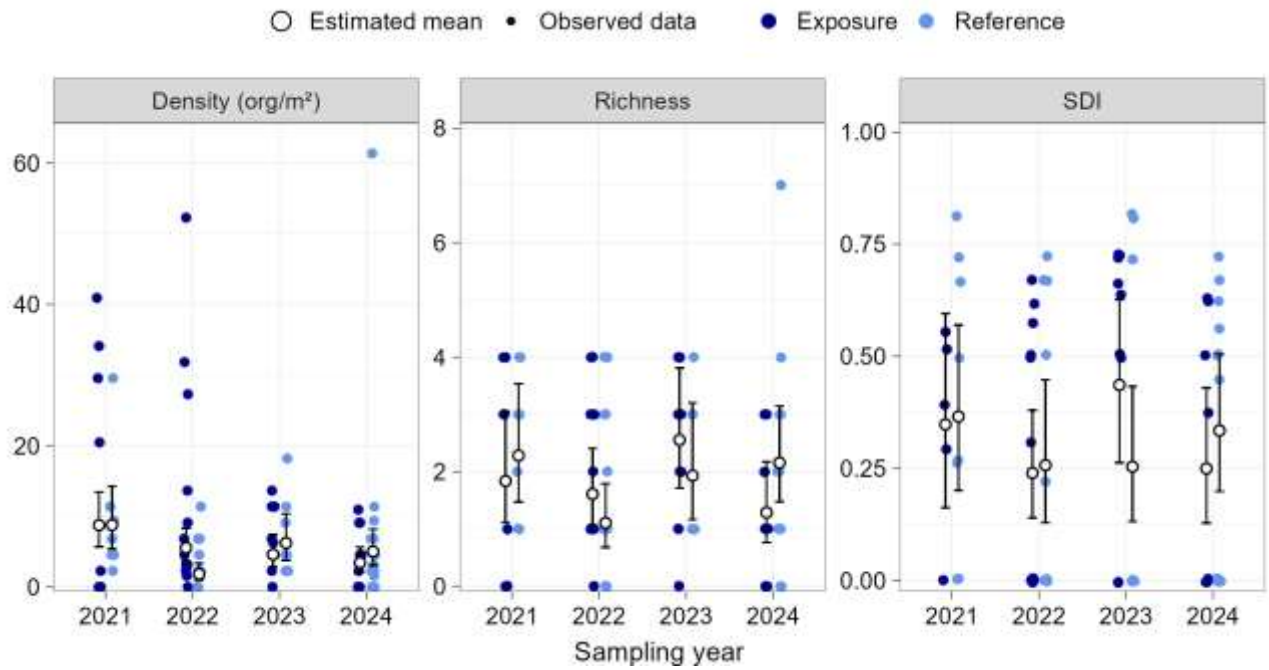


Figure 5-14: Interannual Differences in Motile Epifauna Density, Taxa Richness, and Simpson's Diversity Index in Milne Port, 2021 – 2024.

Note: Observed (solid points) and estimated marginal mean percent cover (open points) and 95% confidence interval (error bars) are presented for each sampling area and year. Two outliers/influential points were removed from the density plot (Q6 in 2021 and 2022) for clarity due to high values (>100 org/m^2).

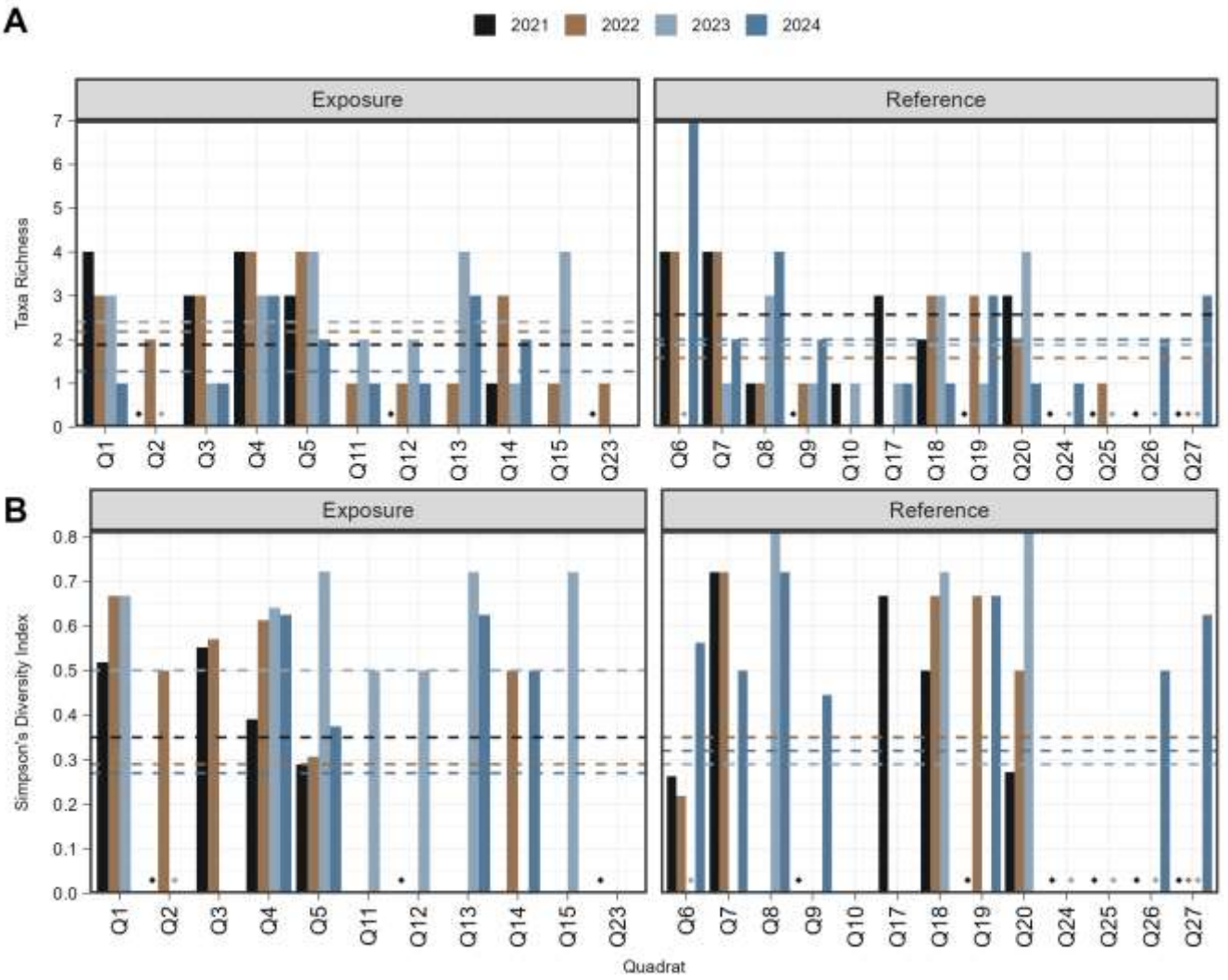


Figure 5-15: A) Taxa Richness and B) Simpson's Diversity Index of Motile Epifauna Recorded in Quadrats Surveyed During Quadrat Surveys in Milne Port, 2021 – 2024.

Note: Only quadrats sampled in 2024 are represented throughout the years. Dashed lines represent the mean percent cover for the exposure and reference quadrats for each year and diamonds represent years in which individual quadrats were not sampled.

5.4.4 Relative Diversity

Taxa richness varied among quadrats for all major assemblages (macroalgae, sessile epifauna, and motile epifauna; Figure 5-16A). Generally, lower mean values and greater variability was seen within the exposure area compared to the reference area for major assemblages (Figure 5-12A). Statistical analysis indicated differences in taxa richness for macroalgae and sessile epifauna between years but not between areas (Table 5-3), consistent with 2023 results. Overall, Q9 in the reference area supported the greatest taxa richness for macroalgae; Q1, Q5, Q6, and Q8 supported the greatest taxa richness for sessile epifauna, and Q6 supported the highest taxa richness for motile epifauna (Figure 5-16A). Q12 in the exposure area supported the lowest macroalgae taxa richness consistent with 2022 and 2023, while Q15 supported the lowest sessile epifauna taxa richness and Q2, Q10, Q15, Q23, and Q24 supported the lowest motile epifauna taxa richness (Figure 5-16A).

SDI for macroalgae ranged from very low to high, sessile epifauna SDI ranged from low to high, and motile epifauna ranged from very low to moderate (Figure 5-16B); statistically significant differences in SDI were found for macroalgae and sessile epifauna between years but not among sampling areas (Table 5-3). Overall, Q4 and Q13 in the exposure area and Q8 in the reference area displayed the greatest universal diversity, where macrofauna, sessile and motile epifauna SDI values were all >0.600 (moderate to high; Figure 5-16B). Q12 was the only quadrats to have very low diversity value for macroalgae while Q23 was the only quadrat to have very low to low diversity values for the three types of assemblages (Figure 5-16B).

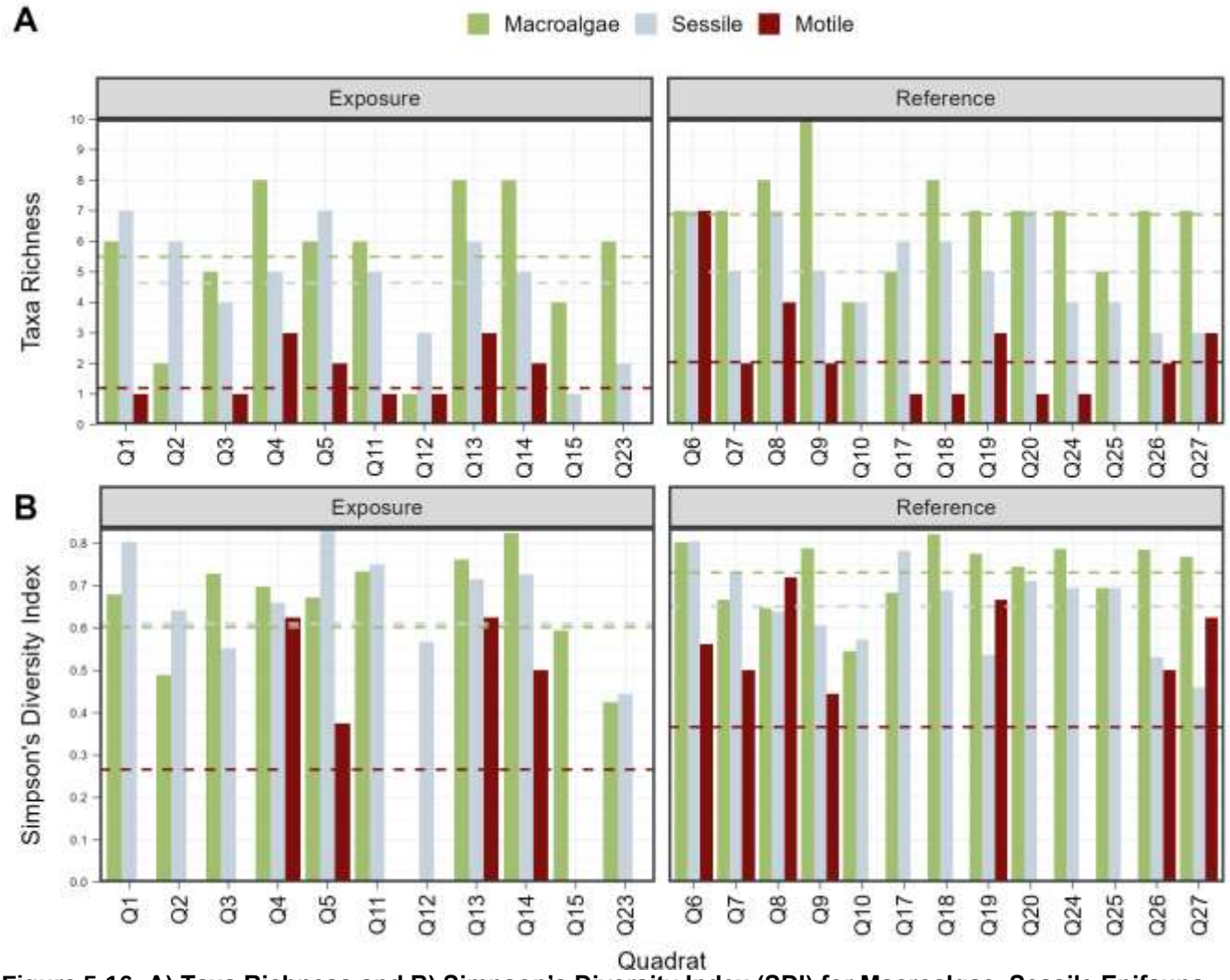


Figure 5-16: A) Taxa Richness and B) Simpson's Diversity Index (SDI) for Macroalgae, Sessile Epifauna, and Motile Epifauna in Milne Port (2024).

Note: Dashed lines represent the mean percent cover for the exposure and reference quadrats for each indicator.

5.4.5 Species Accumulation Curve and Sampling Effort

A taxa accumulation curve was calculated for quadrats surveyed in 2021 to 2024 to provide an estimate of the effort required to fully characterize the quadrat benthic community assemblage (macroalgae, sessile and motile epifauna; Figure 5-17Figure 5-17). While reaching an asymptote within a subsample of a locality is rare, this would indicate that nearly all species have been detected within the location sampled given the level of sampling effort. For years 2021 to 2024, the four curves approached, but did not reach, an asymptote for the number of quadrats sampled in each year. This indicates that sampling in all four years did not reach levels to fully describe the overall benthic community assemblage.

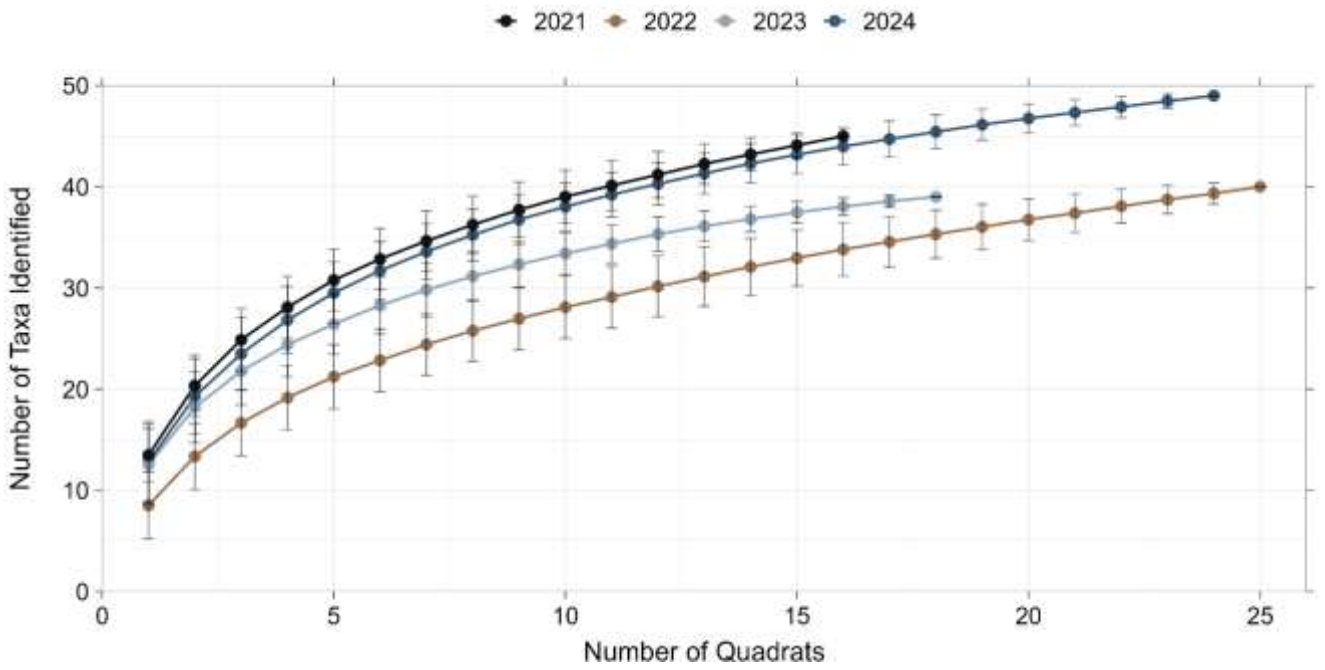


Figure 5-17: Mean Taxa Accumulation Curve for Quadrat Benthic Community Assemblage in Milne Port, 2021 – 2024.

Note: Mean number of taxa identified (solid circles) and one standard deviation (error bars) are shown for each sampling year. Values were determined using 999 permutations.

5.4.6 Opportunistic Observations

While swimming to Q12, divers opportunistically found the original Q2, which was lost in 2021, west of the existing Q12 (Appendix 5B –Photo 24). The quadrat was mostly buried in soft sediment with observation of the quadrat only visible via the deployment chain and attached settlement plates and buoy. Wrinkled rock-borers, brittle stars, and very low cover of brown filamentous algae were observed on top of/within the quadrat and bobtail squid eggs (*Sepiolina* sp.[15]) were observed attached to the settlement plates (Appendix 5B –Photo 25). A Fourhorn Sculpin was also observed within the adjacent area to original Q2.

[15] Eggs were opportunistically collected near the Freight Dock and submitted to Biologica for taxonomic identification.

Saddled Eelpouts (Appendix 5B – Photo 26) were observed residing within the hollow frame of one quadrat surveyed in 2024 (Q3 in exposure area) as well as in the opportunistically observed old Q2. This is the fourth year that eelpouts have been observed within the quadrat frames. For the second year, there were no observations of deceased bivalves, some with blackened siphon ends, such as those observed within and outside of survey quadrats in both areas in 2022 (WSP 2023).

Opportunistic specimens collected for laboratory taxonomic identification around quadrats included the following:

- Mottled red chiton (*Tonicella marmorea*), colonial bryozoans of the Order Cheilostomatida (one identified to Family Calloporidae), tunicates (*Boltenia echinata* and Order Stolidobranchia), and an unidentified sponge (Class Demospongiae) observed outside/on the frame of Q6
- Scale worm (*Harmothoe imbricata*) on the frame of Q7
- Bryozoan (*Alcyonidium* sp.) attached to a settlement plate from Q7
- Mussel (*Mytulis* sp.) from Q14
- Nudibranch (Superfamily Dendronotoidea) from Q17

Epifauna opportunistically observed outside the quadrats included blunt gapers, wrinkled rock-borers, brittle stars, encrusting coralline algae, cone worms and green urchins outside of several quadrats within the exposure (Q3, Q4, Q5, Q10, Q12) and reference areas (Q6, Q28). Epifauna were also observed utilizing the settlement substrates and associated attachment lines, including a green urchin on the deployment chain of Q3, a pink shrimp on the deployment chain and bobtail squid eggs on the settlement plate above Q6, barnacles on the settlement ropes of Q7 and Q24, unidentified hydroids on the settlement plate of Q17, and *Alcyonidium* sp. on the rope of Q20. A sculpin skeleton was also observed within Q9. Mysid shrimp (Order Mysida) were observed in abundance in the water column at quadrats Q7, Q9, Q15, and Q17; several Arctic comb jellies (*Mertensia ovum*) were observed above Q9, Q10, and Q24, and a sea angel (*Clione limacina*) was observed above Q23 in the exposure area.

Nearly all quadrats were observed to have macroalgae growing on the steel quadrat frames, including sugar kelp, rockweed, and filamentous algae. Additionally, the macroalgae growing on the crossbars and within the quadrats were observed to join to create three-dimensional habitats within the perimeter of the quadrats, making exclusion of some macroalgae from analyses challenging. Numerous epifauna across 13 quadrats were also observed utilizing the quadrat frame and crossbars as habitat but were eliminated from analyses due to their location within unsurveyed areas. These organisms included green urchins, wrinkled rock-borers, dendronotid nudibranchs, brittle stars, scallops, mussels, barnacles, sabellid worms, scale worms, and cone worms.

A bryophyte specimen observed outside of the surveyed area in 2024 was identified as the short-leaved spear moss (*Pseudocalliergon brevifolium*).

5.5 Discussion

Substrate type was similar among quadrats and between the exposure and reference areas. Substrate within the quadrats was dominated by soft substrate (silt and sand), consistent with what has been previously documented (Golder 2022; WSP 2023, 2024). Statistically significant interannual differences in soft substrate percent cover were attributed to interannual variations in gravel as well as the quadrats (Q21-Q26) deployed in 2022, which generally contained higher percentages of coarse substrate in 2022.

Similar macroalgae and benthic epifaunal taxa were observed in 2024 as in previous years (2021 to 2023). Indicators (i.e., percent cover, density, and diversity) were variable among quadrats, expected for this component of the MEEMP, given the dynamic coastal environment of Milne Inlet: factors such as freshwater input, sediment transport processes, ice scour, and competition for attachment from annually dynamic taxa such as tube-dwelling diatoms influence the percent cover/density and distribution of species in any given year. Indicators were not significantly different between exposure and reference area in 2024; however, interannual differences were observed in most macroalgae and sessile indices, as well as interaction effects of year and area with motile density. Macroalgae indices increased in 2024 compared to years 2021-2023 for both areas whereas sessile and motile indices were more variable and generally more comparable to previous years, with the majority of significant differences primarily distinguishing the results of 2021 from those of 2022-2024. The only significant decrease in a sessile or motile index identified in 2024 was for motile density in 2024 compared to 2021 in the exposure area, driven largely by higher densities of green urchins at quadrats Q1, Q3, Q4, and Q5. Cooler average water temperatures in 2024 (Chapter 2.0 Marine Water Quality) may have resulted in suboptimal conditions for urchins (Blicher et al. 2007; Filbee-Dexter et al. 2022). No significant differences were identified between 2023 and 2024 in either area for any of the examined indicators.

Overall, there was no evidence of project-related effects on substrate, macroalgae, or benthic epifauna, demonstrated by similar temporal variation observed among both sampling areas, suggesting regional-level drivers of interannual variation.

5.6 Conclusions and Recommendations

Overall, macroalgae and benthic epifaunal community assemblages were comparable between exposure and reference areas though some indicators varied interannually, likely driven by natural environmental factors (e.g., temperature, salinity, ice scour, ice cover). Monitoring efforts to date revealed no evidence of overarching spatial or temporal trends that might be associated with Project-induced effects from construction or operation activities at Milne Port. Monitoring of macroalgae and benthic epifauna assemblages should continue using generally the same sampling and statistical design. However, it is recommended that in 2025, sampling design be altered to include the area on top of the quadrat outer frame and crossbars in analyses due to increased utilization of the frame components as three-dimensional habitat by macroalgae and benthic epifauna, as observed in 2024. Surveys should continue to exclude the components of the settlement substrates above the quadrat as well as organisms observed inside the hollow quadrat frame. It is also recommended that the lost quadrats Q21 and Q22, located adjacent to Phillips Creek, not be replaced in 2025. If required to sample in this area, future monitoring surveys could employ a flexible approach by first conducting a search for the lost quadrats with set time and depth constraints and if the permanent quadrats are not located, a non-permanent quadrat could be surveyed at the 2022 deployment coordinates. Additionally, it is recommended to continue to monitor for opportunistic observations of deceased bivalves (as seen in 2022) and unknown taxa and that samples should be collected, when possible, for analyses and identification.

The power analyses found sufficient power to detect larger changes in substrate, epifauna and macroalgae. Given the low statistical power to detect effect sizes that may be of biological relevance, going forward, it is recommended that conclusions are not made based on strict adherence to statistical significance. Instead, effect size, uncertainty, and statistical significance and power should be considered together before ruling out spatial and temporal changes in benthic infauna.

5.7 Closure

We trust this information is sufficient for your needs at this time. Should you have any questions or concerns, please do not hesitate to contact Phil Rouget, on behalf of the undersigned, at +1 250 419 4945.

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APPENDIX 5A

DFO's Marine Foreshore Environmental Assessment Procedures

MARINE FORESHORE ENVIRONMENTAL ASSESSMENT PROCEDURE

Marine development projects have the potential to effect fish[1] and fish habitat[2]. Fisheries and Oceans Canada (DFO) is responsible for the protection and management of fish habitats under the authority of the *Fisheries Act* and may request plans, specifications and environmental assessments specific to marine projects where more detailed information is required. Assessments may be necessary for all types of projects, including, but not limited to aquaculture, log handling, industrial port development, marinas, private moorage facilities, marine repair facilities, pipeline or outfall installations, vessel launches or barge ramps, dredging projects and shoreline protection projects (breakwaters and seawalls). Presented below are standardized, transect-based assessment procedures intended to provide DFO with the basic information required to determine the potential effects of a development project on fish habitat.

Assessment Area

For comparative purposes, the assessment area should include both the foreshore site proposed for development as well as the adjacent foreshore. This will provide a context for the project and may provide data about cumulative effects if similar developments already occur on-site. A large scale site plan, preferably an enlargement of the hydrographic chart, with a small scale insert of the general geographic location will serve as a base map of the study area.

Tidal Height and Water Depth Measurements

The lowest normal tide (0.0 m), or chart datum, will be used as the reference point for the measurement of tidal height and water depth. Tidal height is recorded as positive relative to chart datum, while water depth below chart datum will be recorded as a negative value. For example, if the assessment is made when the tide is at 2 m, and observations are taken at a water depth of 6 m, then the depth will be recorded as -4 m. Tidal height will be corrected using the closest secondary port to the reference port found in the Canadian Tide and Current Tables, with further correction made for daylight savings time as required.

Transect Layout

Transects should be established perpendicular to the shoreline at regular intervals both within and adjacent to the proposed or active development area so as to sample representative fish habitat conditions. A preliminary low water reconnaissance or dive survey may be advisable to establish

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[1] shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals, and the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals;

[2] shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals, and the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals;

appropriate boundaries for the assessment. Transects should begin at the highest high water mark (HHWM: distance referenced as Station 0.0 m) and, at a minimum, extend to a depth of -20 m (–30 m if the development has the potential to effect deeper benthic habitats). Though small-scale intertidal projects may only require intertidal transects, care must be taken to ensure that a representative sample is collected across the proposed development area. Procedural manuals are available from DFO if sampling of intertidal clam or benthic invertebrates is required. To ensure complete assessment of marine plants and animals in the photic zone, deeper transects may be necessary, especially to determine the effects of sunken debris or woodwaste accumulations resulting from existing developments. Transects should be spaced approximately 25 m apart, although this interval may vary depending on the width of the site. The number of transects required will depend on the nature of the foreshore development proposed, anticipated effects of the development, and local site conditions (tides and currents, geography, fetch, geology, etc.). Transects should be individually numbered and indicated on the site plan, and their commencement point referenced to benchmarks, where possible.

Recording Observations

Habitat inventories should be conducted during the more productive spring and summer months. At that time, algae and saltmarsh species are more readily identifiable, enabling a better assessment of the productive capacity of the site.

Observations should be recorded every 5 m along the transect or at significant changes in habitat type. Observations should include substrate type and composition, presence and relative abundance of marine animals and plants, and any other notable features (e.g., debris accumulations) using the following format:

Substrate

Substrate types are to be subdivided into the following size class categories:

- Bedrock
- Boulder (>256 mm diameter)
- Cobble (64-256 mm diameter)
- Gravel (2-64 mm diameter)
- Sand (0.0625-2 mm diameter)
- Silt/Mud/Clay (<0.0625 mm diameter)

Substrate types are recorded cumulatively as percentages out of a total of 100% (e.g., Boulder 5%; Cobble 15%; Gravel 60%, Sand 20%)

Marine Plants

Marine plants include rooted vascular vegetation (e.g., eelgrass, saltmarsh vegetation, etc.) and marine algae (e.g., rockweed, kelp, etc.). Marine plant observations are recorded as percent areal coverage estimated per 5 m × 1 m transect segment. Observations can be recorded as percentages (5%, 10%, 15%, etc.) or by utilizing the following areal coverage classes:

+	<5%
1	5-25%
2	>25-50%
3	>50-75%
4	>75-100%

Sessile Animals

Many marine animals permanently attached to substrates function as important fish habitat (e.g., barnacles, bay mussels, etc.). Sessile animals are recorded as percent areal coverage along the transect line using either estimated percentages or by areal coverage classes, as presented above.

Motile Animals

Motile animals include fish and marine invertebrates such as crabs and snails. These can be individually counted along the transect or, where too numerous, their estimated numbers can be recorded. Population estimates will most likely be applied to species such as herring or mysid shrimp that naturally occur in large numbers.

Other Features

Accumulations of wood bark and debris, sunken logs or other waste materials arising from onsite or nearby development activities should also be recorded. For wood bark and related small size debris, observations are recorded as percent areal coverage estimates per 5 m × 1 m transect segment and estimated deposition depth (e.g., 15% / 10 cm). For larger materials (sunken logs, wood chunks, etc.), observations can be recorded by individual piece count or by estimate of percent areal coverage.

Observations should be correlated to the transect distance from the HHWM and (corrected) tidal height or water depth (e.g., Sta. 0+80 m / +4.5 m), with information compiled in tabular form, by transect. Common names of observed animals and plants are acceptable for the data table; a species list with scientific names should, however, be appended to the report.

General marine plant categories (e.g., rockweed, eelgrass, bull kelp, saltmarsh, etc.) and any other notable features should be sketched to scale directly on a copy of the site plan, drawings or photographs of the site. A site profile should be prepared for each transect showing the slope of the foreshore and the location of indicator marine plants or invertebrates. A sketch of the proposed marine development should be superimposed over the site plan so that any potential effect of the project on fish habitat is clear. Compensatory habitat proposed for offsetting altered habitat should also be sketched on site maps and profiles to enable review of the positioning of replacement habitat relative to the project.

Photographic Documentation

It is essential to produce a photographic record along the intertidal and subtidal transects. A videographic record of subtidal transects is also recommended. Photos and videos provide a real-time record of characteristic fish habitat at the proposed site and can be invaluable to future post-development site monitoring. Photographic records also facilitate comparison of the productivity of natural habitats with any compensatory habitat constructed to offset habitat losses. As visibility may be a problem, careful attention should be given to appropriate tidal levels, and midday lighting conditions are recommended. Aerial photos, taken at low tide, are often useful to put the site into context with the surrounding area and to verify information provided from other sources.

Assessment reports should include photographs of representative fish habitat types. Depending upon the scope of the proposed foreshore development, an unedited, labelled copy of the assessment video may also be required for the report submission. The video footage should be referenced with pertinent information (e.g., time, date, depth, heading, etc.), and a written or recorded interpretation should accompany the video.

Summary of information to be submitted

1. Basemap showing tenure area boundaries, surrounding area, transect locations and sampling stations
2. Shoreline video/photographs of intertidal zone
3. Underwater video/photographs of transects
4. Tabular data for each transect describing substrate type and composition, marine plants, sessile and motile marine animals, and other notable features
5. Habitat map showing location of different substrate types, plants, animals and operational infrastructure
6. Profile diagrams of each transect showing slope, sediment types and the major marine plants or animals observed
7. Photographs of site and aerial photographs if available.

APPENDIX 5B

Photographs



Photo 1: Representative quadrat (Q6) being surveyed by scientific diver in the reference area.



Photo 2: Representative photo of settlement plates and baskets attached to metal quadrat Q27 in the reference area.

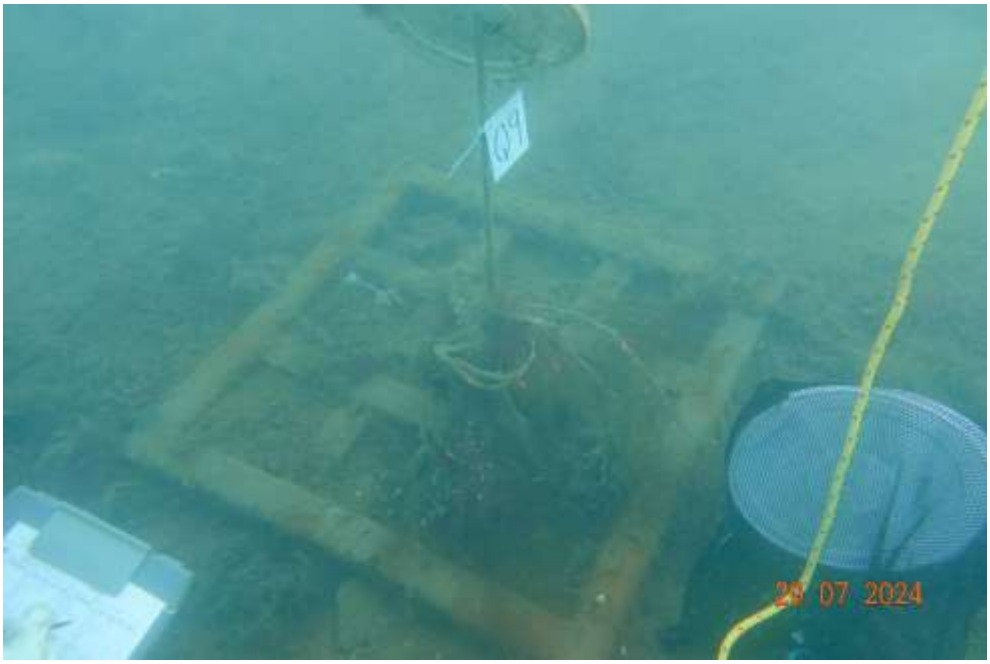


Photo 3: Plastic quadrat label attached to buoy line holding settlement plates and associated float on quadrat Q9 during surveys in the reference area.

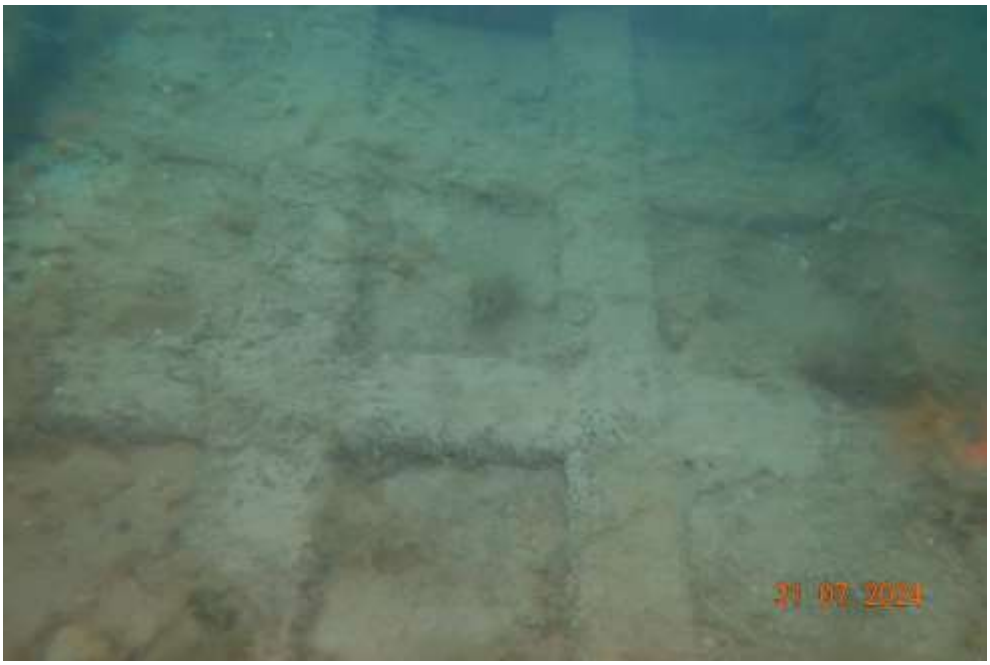


Photo 4: Detrital veneer (diatoms and silt) covering the substrate and quadrat cross bars of Q23 in the exposure area.



Photo 5: Sugar Kelp (*Saccharina latissima*) within quadrat Q1 in the exposure area.



Photo 6: Fish doctor (*Gymnelus viridis*) on rockweed (*Fucus distichus*) and diatoms within quadrat Q27 in the reference area.



Photo 7: Brown filamentous *Pylaiella sp.* and red fiamentous *Savoiea arctica* growing within Q11 within the exposure area.



Photo 8: Acid weed (*Desmarestia* sp.) and Icelandic scallops (*Chlamys islandica*) within Q5 in the exposure area.



Photo 9: *Coccotylus truncates* growing within quadrat Q19 in the reference area.



Photo 10: Red branched *Phycodrys fimbriata* surrounded by small sabellid worms (Family Sabellidae) within quadrat Q19 in the reference area.



Photo 11: Mussel (*Mytilus* sp.; one included in analyses and one opportunistically observed on the quadrat frame) with green filamentous *Chaetomorpha melagonium* within Q14 in the exposure area.



Photo 12: Green filamentous *Spongomorpha aeruginosa* growing on the frame edge of quadrat Q9, opportunistically observed in the reference area.



Photo 13: Quadrat Q12 partially buried in the soft substrate offshore of West Beach within the exposure area.



Photo 14: Scale worm (*Harmothoe imbricata)* opportunistically observed on the quadrat frame of Q26.



Photo 15: Wrinkled rock-borer (*Hiatella arctica*) siphon protruding from soft sediment with sugar kelp in Q3 in the exposure area.



Photo 16: Blunt gaper (*Mya truncata*) within Q10 in the reference area.



Photo 17: Cone worms (*Cistenides granulata*) amongst deceased wrinkled rock-borer shells in quadrat Q14 in the exposure area.



Photo 18: Ribbon worm (Phylum Nemertea) moving into quadrat Q6 during the survey in the reference area.



Photo 19: Brittle star (Class Ophiuroidea) observed in quadrat Q12 within the exposure area.



Photo 20: Green urchin (*Strongylocentrotus droebachiensis*; left) and six-rayed sea star (*Leptasterias* sp.; right) within quadrat Q5 in the exposure area.



Photo 21: Shorthorn Sculpin (*Myoxocephalus scorpius*) within quadrat Q6 in the reference area.



Photo 22: Juvenile Lumpfish (*Cyclopterus lumpus*) within quadrat Q9 in the reference area.



Photo 23: Slender Eelblenny (*Lumpenus fabricii*) on the soft substrate within quadrat Q13 in the reference area.

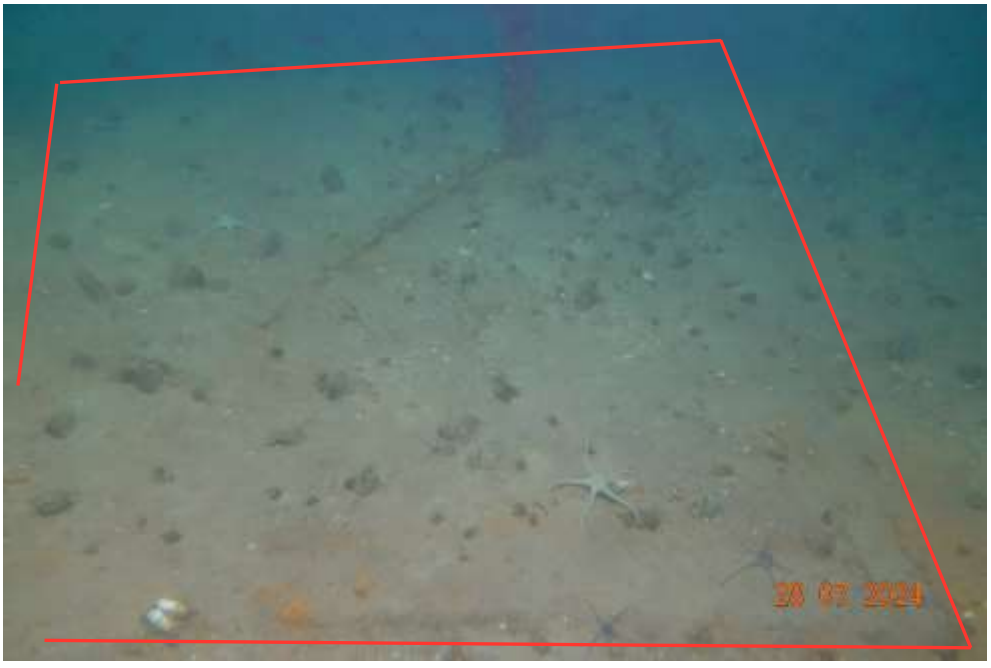


Photo 24: Original Q2 (outlined in red) deployed in 2020 and unable to be located in 2021, opportunistically found during surveys mostly buried in the soft sediment in the exposure area.



Photo 25: Bobtail squid (*Sepiolina* sp.) eggs attached to settlement substrates above original Q2 in the exposure area.



Photo 26: Saddled eelpout (*Lycodes mucosus*) opportunistically observed within the inner frame of quadrat Q3 in the exposure area.

APPENDIX 5C

Quadrat Survey Data (2021 - 2024)

APPENDIX 5C
Table 1: 2021 Quadrat Survey Data, Milne Port

Quadrat Number	Year of Deployment	Study Area	UTM (17W) Easting (m)	UTM (17W) Northing (m)	Survey Date (DD/MM/YYYY)	Quadrat Area (m²)[1]	Depth (-m) Chart Datum [2]	Substrate (% cover)[3]: Bedrock	Cobble	Gravel	Sand	Silt	Shell -whole/crushed	Detrital veneer	Other debris (i.e., metal)
Q1	2020	Exposure	502828	7976382	14/08/2021	0.44	8.9	-	-	-	60	40	3	12	4
Q3	2020	Exposure	504208	7976659	15/08/2021	0.44	10.4	-	-	2	38	57	3	11	8
Q4	2020	Exposure	504363	7976611	06/08/2021	0.44	12.1	-	2	1	27	68	2	10	4
Q5	2020	Exposure	504802	7976731	06/08/2021	0.44	12.4	-	-	1	27	72	-	17	8
Q6	2020	Reference	506563	7979107	08/08/2021	0.44	15.4	-	-	-	25	70	5	6	2
Q7	2020	Reference	506774	7979170	16/08/2021	0.44	10.1	-	4	-	26	69	2	11	3
Q8	2020	Reference	506957	7979457	16/08/2021	0.44	10.5	-	1	-	38	60	3	12	3
Q10	2020	Reference	506584	7979115	08/08/2021	0.44	6.1	-	1	8	23	67	1	12	5
Q11	2021	Exposure	502820	7976371	14/08/2021	0.44	7.5	-	-	-	60	40	1	14	-
*Q12	2021	Exposure	503041	7976474	11/08/2021	0.44	6.0	-	1	2	87	9	1	13	-
Q13	2021	Exposure	504210	7976643	15/08/2021	0.44	7.9	-	2	11	38	50	1	9	-
Q14	2021	Exposure	504350	7976589	16/08/2021	0.44	7.6	-	1	12	55	32	1	6	-
Q15	2021	Reference	504800	7976721	06/08/2021	0.44	7.4	-	-	-	30	70	1	14	-
Q16	2021	Reference	506567	7979090	08/08/2021	0.44	5.6	-	3	12	23	56	6	7	-
Q17	2021	Reference	506774	7979163	16/08/2021	0.44	8.9	-	3	-	19	78	1	9	-
Q18	2021	Reference	506956	7979452	16/08/2021	0.44	9.8	-	-	-	20	80	2	11	-
Q20	2021	Reference	506588	7979125	08/08/2021	0.44	10.9	6	-	-	23	67	5	-	-

Quadrat Number	Macroalgae (% Cover): Detrital Algae	Kelp: Sugar kelp *Saccharina latissima*	Kelp: Sieve kelp *Agarum clathratum*	Brown: Rockweed *Fucus distichus*	Brown: Brown filamentous *Pylaiella* sp.	Brown: Brown filamentous *Halosiphon tomentosus*	Brown: Acid weed *Desmarestia* sp.	Brown: Brown filamentous 1 cf. *Coelocladia arctica*	Brown: Brown filamentous Ochrophyta indet.	Green: Short green filamentous 1 Chlorophyta indet.	Green: Green filamentous *Chaetomorpha melagonium*	Green: Green filamentous Chlorophyta Indet.	Red: Red filamentous Rhodophyta indet.	Red: Red branching *Savoiea arctica*	Red: Red bladed *Coccotylus truncatus*	Red: Red bladed *Dilsea socialis*	Red: Encrusting coralline Corallinales indet.
Q1	8	-	-	-	8	-	-	-	-	-	-	-	-	-	1	-	-
Q3	14	-	-	-	1	-	<1	2	-	-	-	-	-	-	-	-	-
Q4	4	-	-	-	-	-	6	-	<1	-	-	-	2	-	-	-	-
Q5	5	-	2	-	<1	-	1	-	<1	-	-	-	-	-	-	-	-
Q6	38	-	-	-	-	-	-	-	1	-	-	<1	-	-	<1	-	-
Q7	43	-	-	-	-	-	17	4	-	-	3	-	-	-	4	-	2
Q8	8	<1	-	-	-	7	1	-	-	-	-	1	-	-	<1	-	-
Q10	9	1	-	-	11	-	-	-	1	-	-	<1	-	-	-	-	-
Q11	-	<1	-	-	7	2	1	-	-	<1	<1	-	-	-	2	-	-
*Q12	1	-	-	-	5	-	1	-	-	-	-	-	-	-	-	-	-
Q13	37	2	-	-	2	1	16	17	-	-	-	-	-	-	-	-	-
Q14	44	1	-	-	-	-	33	-	-	-	-	<1	-	-	<1	-	-
Q15	16	-	-	-	5	-	2	9	6	1	1	-	-	-	6	-	-
Q16	2	2	-	<1	19	-	-	-	<1	-	<1	-	1	-	-	5	-
Q17	8	2	-	-	8	-	22	-	-	-	-	1	-	-	3	-	2
Q18	-	-	-	-	3	2	7	<1	-	-	-	-	-	1	-	-	-
Q20	1	2	-	-	2	-	6	-	-	-	-	-	-	-	-	-	1

Quadrat Number	Invertebrates (Sessile: % cover; Motile: # individuals): Annelida: Tubes[4] Polychaeta indet.	Annelida: Cone worm *Cistenides granulata*	Annelida: Small sabellid worm sp. 1 Sabellidae indet.	Annelida: Large sabellid worm sp. 2 Sabellidae indet.	Arthropoda: Amphipod Amphipoda Indet.	Arthropoda: Barnacle Balanomorpha indet.	Arthropoda: Pandalus shrimp *Pandalus* sp.	Arthropoda: Sculptured shrimp *Sclerocrangon boreas*	Cnidaria: Burrowing anenome Ceriantharia indet.	Echinodermata: Brittle star Ophiuroidea indet.	Echinodermata: Green urchin *Strongylocentrotus droebachiensis*	Mollusca: Northern astarte *Astarte borealis*	Mollusca: Astarte clam *Astarte* sp.	Mollusca: Macoma clam *Macoma* sp.	Mollusca: Blunt gaper *Mya* sp.	Mollusca: Wrinkled rock-borer *Hiatella arctica*	Mollusca: Icelandic scallop *Chlamys islandica*	Mollusca: Greenland glass scallop *Similipecten greenlandicus*	Mollusca: Discord mussel *Musculus discors*	Mollusca: Mussel Mytilida indet.	Mollusca: Clam Bivalvia indet.	Mollusca: Margarite snail *Margarites* sp.	Mollusca: Limpet Lottiidae indet.	Mollusca: Snail Vetigastropoda indet.	Platyhelminthes: Flat worm Platyhelminthes	Tunicata: Orange tunicate sp. 1 *Polycarpa* sp.	Tunicata: Tunicate Tunicata indet.	Fish (# individuals): Eelpout: Pout *Gymnelus* sp.	Sculpin: Sculpin Cottidae indet.	Fish: Unidentified Juvenile fish
Q1	-	3	<1	<1	-	-	1	-	-	1	6	-	-	-	-	28	-	-	-	-	-	-	-	-	-	<1	-	-	-	1
Q3	-	4	<1	-	-	-	-	-	-	6	8	-	-	-	4	24	-	1	-	-	-	1	-	-	-	-	<1	-	-	-
Q4	<1	1	<1	<1	-	-	-	1	-	1	10	-	-	<1	<1	13	<1	-	-	-	-	-	-	-	1	-	-	-	-	-
Q5	<1	<1	-	<1	-	-	-	-	-	2	15	-	-	-	<1	12	<1	2	-	-	5	-	-	-	-	-	-	1	-	-
Q6	<1	<1	-	<1	-	-	3	-	-	58	6	-	<1	-	2	7	<1	6	-	-	<1	1	-	-	-	-	-	-	-	-
Q7	-	<1	<1	1	1	-	-	-	1	2	1	-	-	-	<1	4	-	-	<1	-	-	-	1	-	-	-	-	-	-	-
Q8	-	1	<1	<1	-	-	-	-	-	2	-	<1	-	-	2	33	<1	-	-	<1	-	-	-	-	-	-	-	-	-	-
Q10	-	4	<1	-	-	-	-	-	-	1	-	-	-	-	-	3	-	-	<1	1	-	-	-	-	-	-	-	-	-	-
Q11	-	6	<1	-	-	-	-	-	-	-	-	-	-	-	<1	28	-	1	<1	-	<1	-	-	-	-	<1	-	-	-	-
*Q12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q13	-	9	5	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	<1	<1	-	-	-	-	-	-	-	-	-	-
Q14	-	3	8	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Q15	<1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	28	-	-	-	<1	1	-	-	-	-	-	-	-	-	-
Q16	-	8	-	-	-	-	-	-	-	1	-	-	<1	-	2	2	-	-	-	<1	<1	1	-	1	-	<1	-	-	1	-
Q17	-	<1	2	<1	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	<1	-	1	1	-	-	-	-	-	-	-
Q18	-	<1	<1	-	-	-	-	-	-	1	-	-	-	-	1	30	<1	-	-	-	-	-	-	-	-	-	-	-	-	1
Q20	-	4	-	<1	-	<1	-	-	-	11	-	<1	2	-	<1	22	<1	-	-	<1	<1	1	1	-	-	<1	-	-	-	-

Notes: Grey highlighting indicates sessile invertebrates. '*' indicates the quadrat was not included in data analysis in 2021. cf. = compare; indet. = indeterminate; m = metres; sp. = Single or unconfirmed multiple species within a genus, used when the specimen has not been identified to the species level; # = number; % = percent.

[1] Individual organism counts have been corrected for quadrat area (quadrats deployed in 2020/2021 with an area of 0.44 m² have a multiplier of 2.291).

[2] Diver depth gauge was converted to negative (-) meters (m) chart datum (CD), estimated using tide table for Milne Inlet, Nunavut (#05791).

[3] Substrate size ranges: bedrock; boulder (>256 mm diameter); cobble (64 to 256 mm); gravel (2 to 64 mm); sand (0.0625 to 2 mm); silt/mud/clay (<0.0625 mm).

[4] Tubes are likley sabellid worms, though animal inside tube was not observed during survey and not included in data analysis.

APPENDIX 5D

Taxa List

Common Name	Scientific Name
Macroalgae	
Brown Algae / Kelp (Ochrophyta)	
-	*Battersia* sp.
Acid weed	*Desmarestia* sp.
-	*Dictyosiphon foeniculaceus*
Rockweed	*Fucus distichus*
-	*Halosiphon tomentosus*
-	*Pylaiella sp.*
Sugar kelp	*Saccharina latissima*
-	*Stictyosiphon tortilis*
Red Algae (Rhodophyta)	
-	*Coccotylus truncatus*
-	*Dilsea socialis*
-	*Phycodrys fimbriata*
-	*Polysiphonia* sp.
-	*Savoiea arctica*
Encrusting coralline algae	Order Corallinales
Green Algae (Chlorophyta)	
-	*Chaetomorpha melagonium*
-	*Spongomorpha aeruginosa*
Green filamentous	Phylum Chlorophyta
Marine Invertebrates	
Annelida	
Cone worm	*Cistenides granulata*
Scale worm	*Harmothoe imbricata*
Small sabellid worm sp. 1	Family Sabellidae
Large sabellid worm sp. 2	Family Sabellidae
Spaghetti worm	Family Terebellidae
Arthropoda	
Pink shrimp	*Pandalus montagui*
Amphipod	Order Amphipoda
Barnacle	Class Balanomorpha
Mysid*	Order Mysida
Bryozoa	
Bryozoan*	*Alcyonidium* sp.
Bryozoan*	Family Calloporidae
Bryozoan*	Order Cheilostomatida
Cnidaria	
Burrowing anemone	Order Ceriantharia
Ctenophora	
Arctic comb jelly*	*Mertensia ovum*
Ctenophore	Phylum Ctenophora
Echinodermata	
Six-rayed sea star	*Leptasterias* sp.
Green urchin	*Strongylocentrotus droebachiensis*
Brittle star	Family Ophiuridae

Common Name	Scientific Name
Marine Invertebrates	
Mollusca	
Northern astarte	*Astarte borealis*
Icelandic scallop	*Chlamys islandica*
Sea angel*	*Clione limacina*
Bushy-backed sea slug	*Dendronotus* sp.
Wrinkled rock-borer	*Hiatella arctica*
Macoma clam	*Macoma* sp.
Margarite snail	*Margarites* sp.
Discord mussel	*Musculus discors*
Blunt gaper	*Mya truncata*
Mussel	*Mytilus* sp.
Nut clam	*Nuculana* sp.
Bobtail squid (eggs)*	*Sepiolina sp.*
Greenland cockle	*Serripes groenlandicus*
Greenland scallop	*Similipecten greenlandicus*
Common tortoise limpet	*Testudinalia testudinalis*
Mottled red chiton*	*Tonicella marmorea*
Nudibranch*	Superfamily Dendronotoidea
Nemertea	
Ribbon worm	Phylum Nemertea
Porifera	
Sponge*	Class Demospongiae
Tunicata	
Tunicate*	*Boltenia echinata*
Tunicate*	Order Stolidobranchia
Tunicate	Phylum Tunicata
Fish	
Lumpfish	*Cyclopterus lumpus*
Fish Doctor	*Gymnelus hemifasciatus*
Slender Eelblenny	*Lumpenus fabricii*
Eelblenny	*Lumpenus* sp.
Saddled Eelpout	*Lycodes mucosus*
Fourhorn Sculpin*	*Myoxocephalus quadricornis*
Arctic Sculpin	*Myoxocephalus scorpioides*
Shorthorn Sculpin	*Myoxocephalus scorpius*

Note: '-' indicates no existing or unknown common name;
'*' indicates taxa were only observed opportunistically during transect/quadrat surveys and were not included in analyses.

APPENDIX 5E

Power Analysis

POWER ANALYSIS – BENTHIC EPIFAUNA AND MACROALGAE

This section presents the results of a power analysis undertaken for the 2021–2024 benthic epifauna and macroalgae monitoring data at Milne Port.

METHODS

A Type I error is concluding there is a significant effect when none exists (i.e., a false positive). Alpha (α) is the probability of committing a Type I error. A Type II error is the probability of concluding there is no significant effect when there is a real effect of some specified magnitude (i.e., a false negative). Beta (β) is the probability of committing a Type II error. The power of a statistical test (1 - β) is the probability of detecting a real effect. In this analysis, the Type I error-rate (α), also referred to as the significance level, was set to 0.05. The desired minimum statistical power was 80%, which corresponds to a type II error-rate of 0.2. Power analyses were conducted to assess the power of statistical tests under multiple effect sizes. For each model, a set of effect sizes was created, based on preliminary power analyses, so that power >80% was achieved at the largest absolute values of effect sizes, but also so that power is assessed at a range of effect sizes. Since the analysis focused on assessment of changes to statistical power at different effect sizes, the power analysis used the observed samples sizes from the collected data.

Data Simulation following Effect Size Application

The power to detect statistically significant effects was estimated using residual bootstrapping in R v. 4.4.2 (R 2024), following the approach of Fox and Weisberg (2018). The general approach was to simulate data based on the model selected for interpretation, the observed sample size (or the sample size of choice), and the residuals, and re-run the models that were used for the original analysis using the simulated data. The data simulation and analysis were repeated 5,000 times, and the proportion of repetitions where the *P*-values of interest were significant ($P<0.05$) was interpreted as the statistical power of the test.

For all models, the simulated effect size was only applied to 2024 Exposure data. For models of macroalgae, sessile, and motile species richness, as well as motile density, where a Poisson mixed model was used, the effect size was applied to the incidence rate. For models of SDI and percent cover, beta mixed models were used to account for the data being restricted between 0 and 1. Thus, the effect was applied on the logit scale. For each iteration of the simulation, the predictions were estimated on the log-scale or the logit-scale, as applicable. Then, a Poisson or a beta distribution was used to generate random values using the predictions calculated above. The generation of random values was done to create random variability in the simulated data. For cases within the dataset that did not have an effect size applied to them (i.e., cases that were collected at the Reference area of prior to 2024), predictions were still used to generate a random value, resulting in simulated data that differed from the originally collected data. The simulated data were then analyzed using the same model structure as the original analysis.

In the analysis of 2021–2024 data, where the question of interest was the detection of change in response variables between exposure and the reference area, the effect was applied as percentage relative to the values predicted for the reference area. Overall, an increasing effect size resulted in higher simulated 2024 Exposure values compared to the 2024 Reference values, whereas a decreasing effect size resulted in lower 2024 Exposure values when compared to the 2024 Reference values. The simulated data were analyzed using the same model as the original analysis described in the main report, and the *P*-values for the interaction between area and year were retained. The proportion of repetitions with *P*-values less than 0.05 was interpreted as the statistical power of the overall regression for that effect size. The power analysis was performed on a range of

effect sizes. Power curves were produced, showing statistical power as a function of effect sizes. Horizontal lines were added to visualize statistical power values of 0.8 (hereafter sufficient power) and 0.9 (hereafter high power), and the observed effect size was provided in the results.

RESULTS

There was sufficient power (≥0.8) to detect an effect of -50% or +120% (Figure 1). That is, 2024 exposure soft substrate had to be 50% lower or 120% higher than 2024 reference values for the model to have sufficient power to detect a significant interaction. In comparison, the observed effect size was +14%. Statistical power to estimate the observed effects was approximately 0.3.

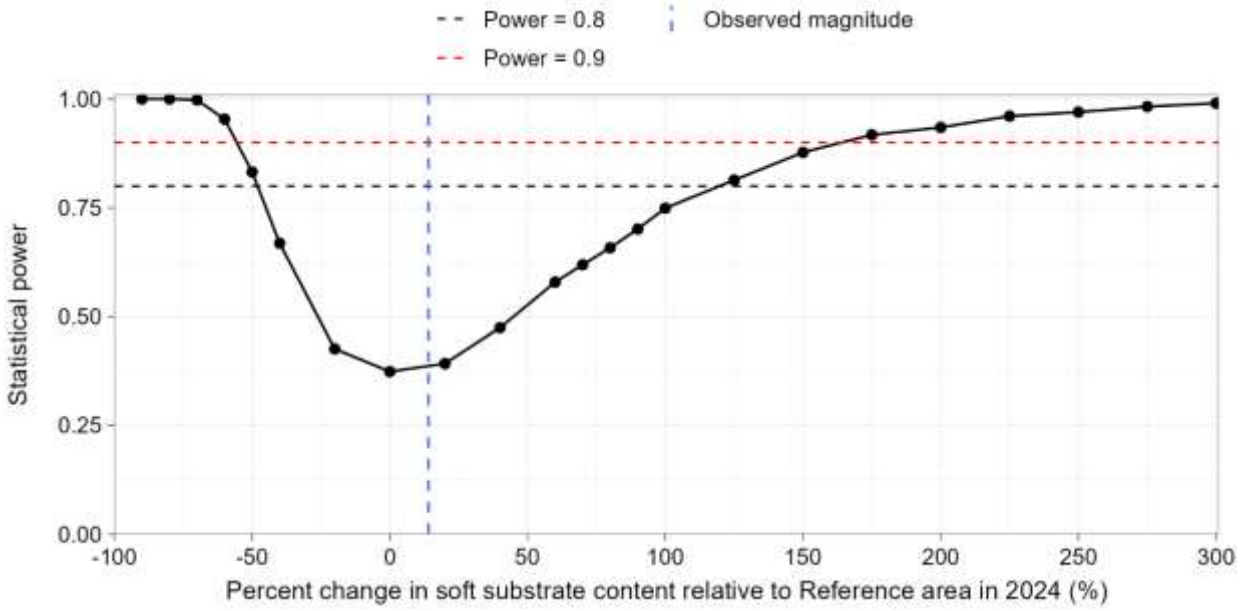


Figure 1: Statistical Power of The Model of Percent Soft Substrate Data to Detect a Significant Interaction Between Year and Area Based on Quadrat Data Collected in 2021-2024.

In the analysis of macroalgae percent cover, there was sufficient power (≥0.8) to detect an effect of +270%, but none of the negative effect sizes (Figure 2). That is, the 2024 percent cover of macroalgae at the exposure area had to be 270% higher than the 2024 reference values for the model to have sufficient power to detect a significant interaction. When translated into percent cover, a 270% increase means that the percent cover in the exposure area would need to be 84% (compared to the 59% value estimated in the 2024 reference area). In comparison, the observed effect size was -57%. Statistical power to estimate the observed effects was <0.3.

In the analysis of macroalgae richness, there was sufficient power (≥0.8) to detect an effect of -62% or +80% (Figure 2). That is, the 2024 macroalgae richness at the exposure area had to be 62% lower or 80% higher than the 2024 reference values for the model to have sufficient power to detect a significant interaction. When translated into richness values, this means that in the exposure area, there would need to be an average of 2.2 macroalgae species or an average of 10.5 macroalgae species (compared to the 5.9 value estimated in the 2024 reference area). In comparison, the observed effect size was -24%. Statistical power to estimate the observed effects was <0.3.

In the analysis of macroalgae SDI, there was sufficient power (≥0.8) to detect an effect of -38% or +240% (Figure 2). That is, the 2024 macroalgae SDI at the exposure area had to be 38% lower or 240% higher than the 2024 reference values for the model to have sufficient power to detect a significant interaction. When translated into SDI values, this means that in the exposure area, macroalgae SDI would need to be an average of 0.6 or 0.893 (compared to the 0.7 value estimated in the 2024 reference area). In comparison, the observed effect size was -29%. Statistical power to estimate the observed effects was 0.7.

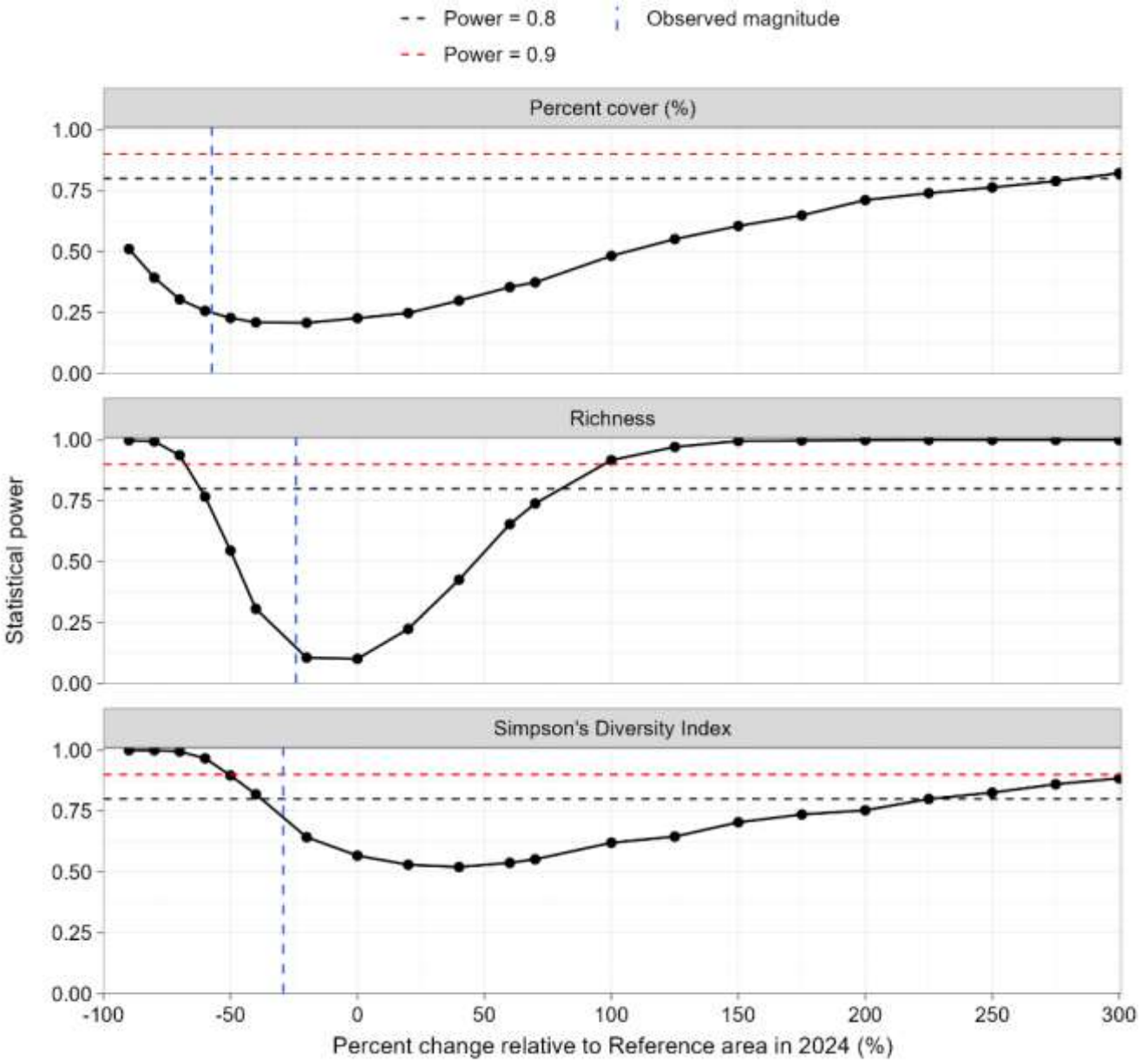


Figure 2: Statistical Power of The Models of Benthic Macroalgae Data to Detect a Significant Interaction Between Year and Area Effects, Based on Quadrat Data Collected in 2021–2024.

In the analysis of sessile epifauna percent cover, there was sufficient power (≥0.8) to detect an effect of +275%, but none of the negative effect sizes (Figure 3). That is, the 2024 percent cover of sessile epifauna at the exposure area had to be 275% higher than the 2024 reference values for the model to have sufficient power to detect a significant interaction. When translated into percent cover, a 275% increase means that the sessile percent cover in the exposure area would need to be 60% (compared to the 29% value estimated in the 2024 reference area). In comparison, the observed effect size was -48%. Statistical power to estimate the observed effects was <0.3.

In the analysis of sessile epifauna richness, there was sufficient power (≥0.8) to detect an effect of -68% or +62% (Figure 3). That is, the 2024 sessile richness at the exposure area had to be 62% lower or 80% higher than the 2024 reference values for the model to have sufficient power to detect a significant interaction. When translated into richness values, this means that in the exposure area, there would need to be an average of 1.8 sessile species or an average of 9.3 sessile species (compared to the 5.7 value estimated in the 2024 reference area). In comparison, the observed effect size was -14%. Statistical power to estimate the observed effects was <0.1.

In the analysis of sessile SDI, there was sufficient power (≥0.8) to detect an effect of +155%, but none of the negative effect sizes (Figure 3). That is, the 2024 sessile SDI at the exposure area had to be 155% higher than the 2024 reference values for the model to have sufficient power to detect a significant interaction. When translated into SDI values, this means that in the exposure area, sessile SDI would need to be an average of 0.810 (compared to the 0.626 value estimated in the 2024 reference area). In comparison, the observed effect size was 0.3%. Statistical power to estimate the observed effects was <0.3.

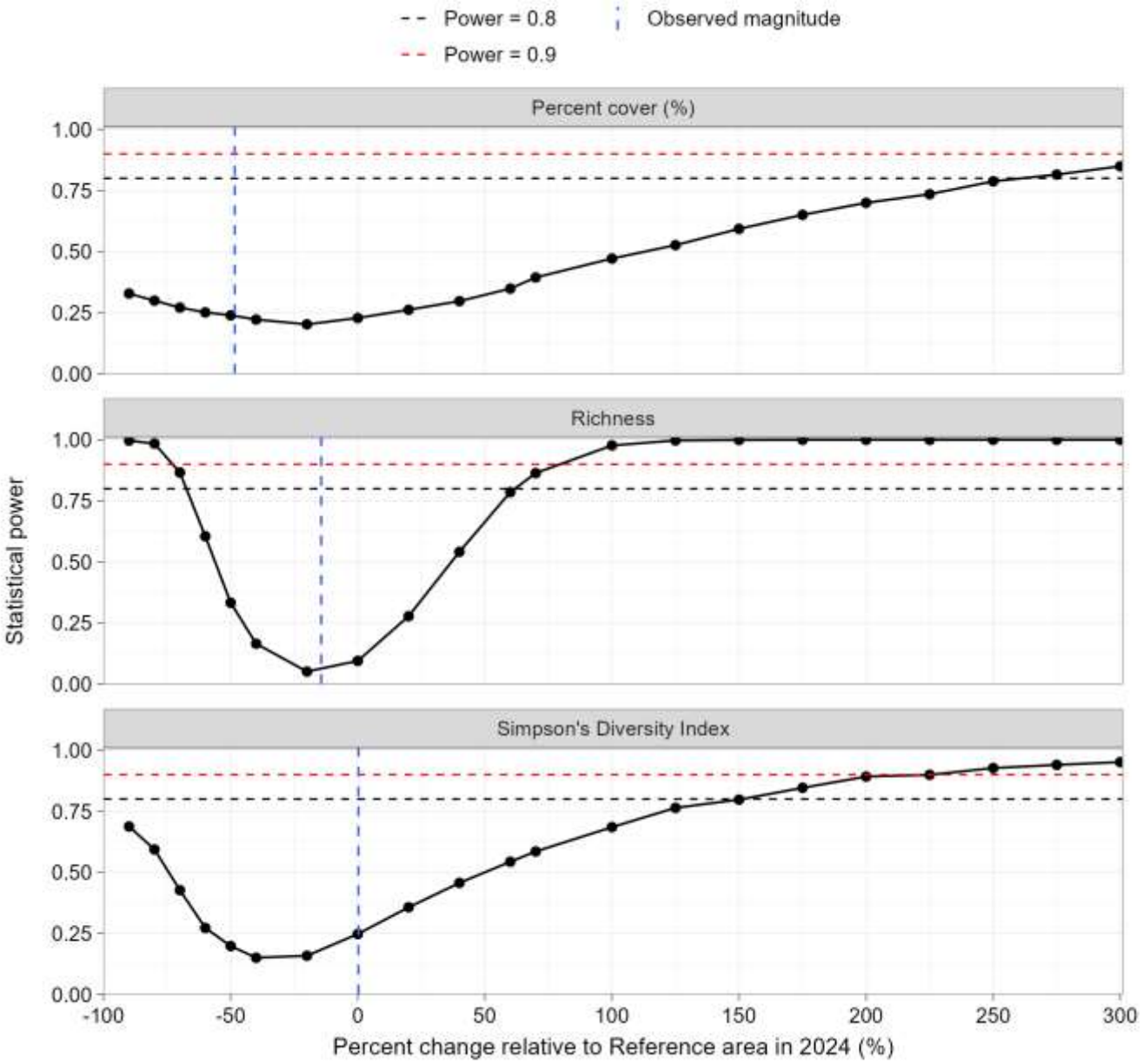


Figure 3: Statistical power of the models of benthic sessile epifauna data to detect a significant interaction between year and area effects, based on quadrat data collected in 2021–2024.

In the analysis of motile epifauna density, there was sufficient power (≥0.8) to detect any of the examined effects (Figure 4). This was due to the interannual differences in motile density differing between reference and exposure areas prior to 2024. That is, the interaction term of the model was significant regardless of the simulated 2024 effects.

In the analysis of motile epifauna richness, there was sufficient power (≥0.8) to detect an effect of -69% or +190% (Figure 4). That is, the 2024 motile richness at the exposure area had to be 69% lower or 190% higher than the 2024 reference values for the model to have sufficient power to detect a significant interaction. When translated

into richness values, this means that in the exposure area, there would need to be an average of 0.67 motile species or an average of 6.3 motile species (compared to the 2.2 value estimated in the 2024 reference area). In comparison, the observed effect size was -40%. Statistical power to estimate the observed effects was 0.4.

In the analysis of motile epifauna SDI, there was sufficient power (≥0.8) to detect an effect of -80%, but none of the assessed positive effect sizes (Figure 4). That is, the 2024 motile SDI at the exposure area had to be 80% lower than the 2024 reference values for the model to have sufficient power to detect a significant interaction. When translated into SDI values, this means that in the exposure area, motile SDI would need to be an average of 0.09 (compared to the 0.33 value estimated in the 2024 reference area). In comparison, the observed effect size was -34%. Statistical power to estimate the observed effects was <0.3.

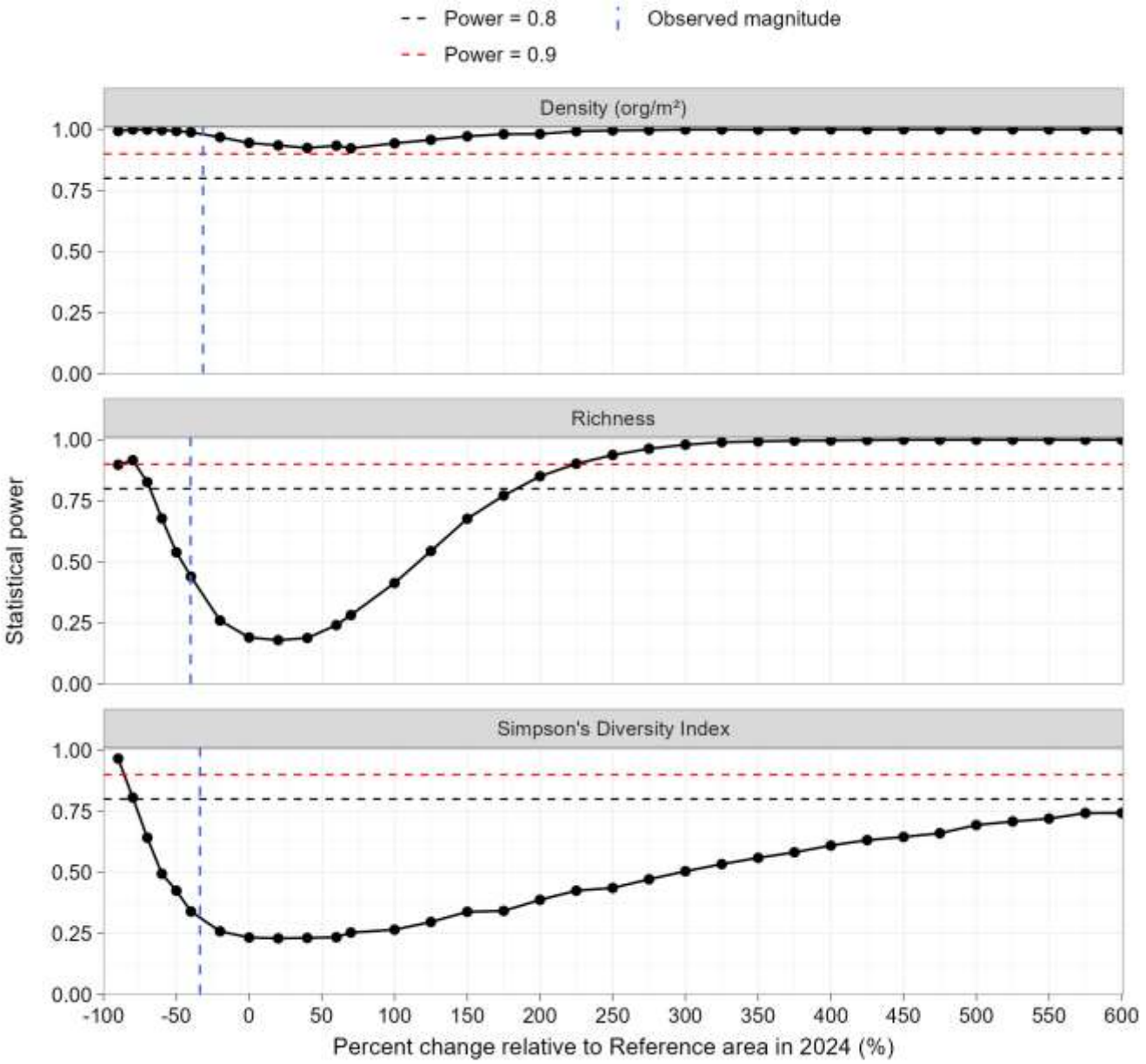


Figure 4: Statistical Power of The Models of Benthic Motile Epifauna Data to Detect a Significant Interaction Between Year and Area Effects, Based on Quadrat Data Collected in 2021–2024.

SUMMARY

Overall, statistical power to detect an interaction between year and area was low for effect sizes less than 50% in absolute value. This outcome is due to several factors, as follows:

1) High variability in data, as seen for macroalgae percent cover and richness, sessile richness and SDI, and motile SDI.
2) Low or high values for data that are bound between 0 and 1 (or 100%), as seen for soft substrate and sessile percent cover.
3) The increasing number of sampling years – since the effect size is only being applied to the latest year (i.e., 2024), the existence of previous three years without a strong indication for an interaction would mean that the 2024 effect would need to be large for the overall interaction to be significant.

Given the low statistical power, going forward, it is recommended differences between areas should be assessed using effect sizes rather than a strict adherence to statistical significance.

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Fox, J. and Weisberg, S. 2018. Bootstrapping Regression Models in R. An Appendix to An R Companion to Applied Regression, third edition, https://socialsciences.mcmaster.ca/jfox/Books/Companion/appendices/Appendix-Bootstrapping.pdf.

R Core Team. 2024. R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.



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REPORT

Chapter 6.0 Marine Fish Community Program

2024 Milne Port Marine Environmental Effects Monitoring Program (MEEMP) and Non-Indigenous Species/Aquatic Invasive Species (NIS/AIS) Monitoring Program

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April 9, 2024

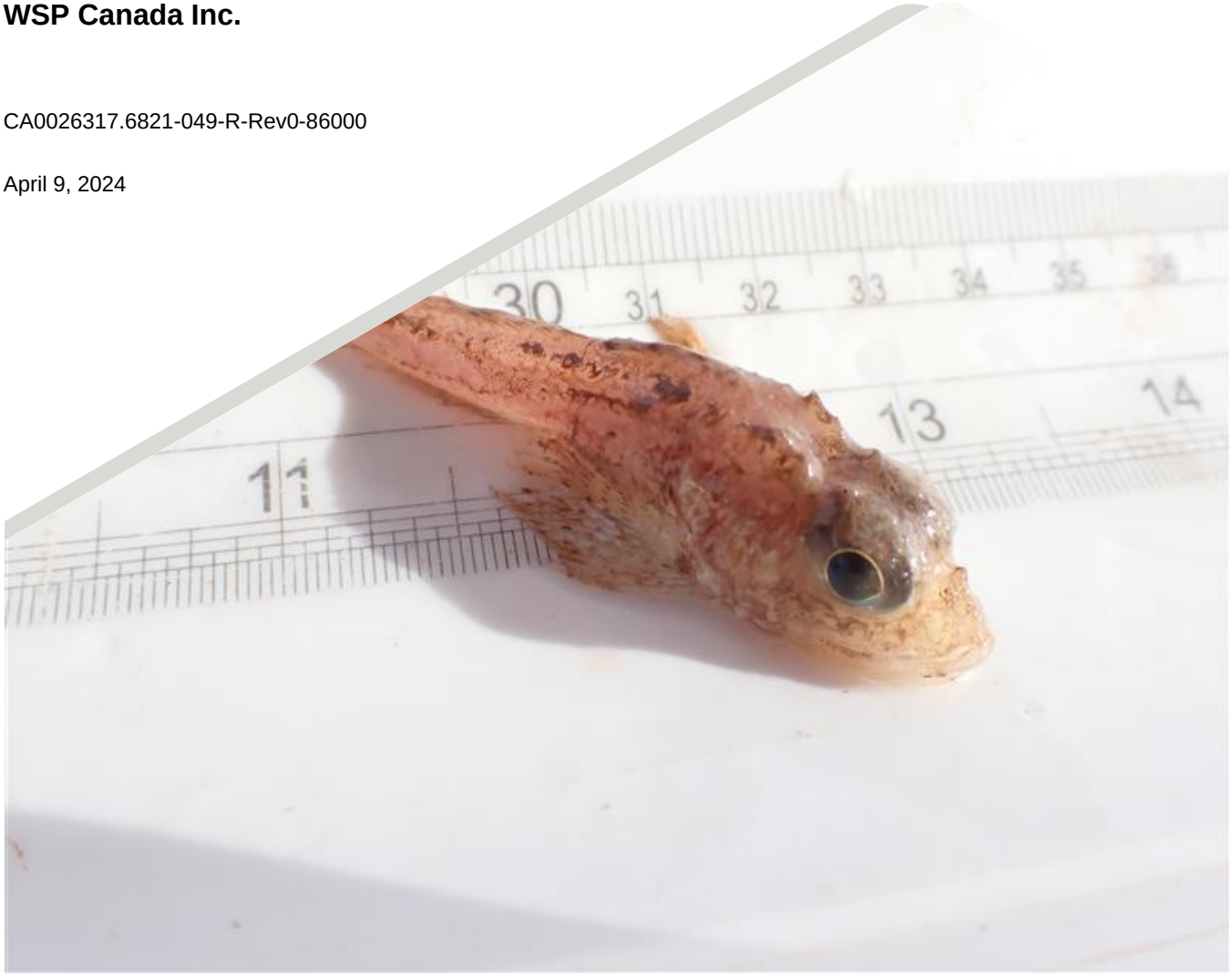


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ACRONYMS AND ABBREVIATIONS

Acronym or Abbreviation	Definitions
CD	Chart datum
cm	Centimeter
CPUE	Catch-Per-Unit-Effort
DFO	Fisheries and Oceans Canada
DPF	Direct Project Footprint
ERP	Early Revenue Phase
FA	Fishing Area
FEIS	Final Environmental Impact Statement
GPS	Global Positioning System
ha	Hectare
hr	Hour
IPF	Indirect Project Footprint
km	Kilometer
m	Meter
mm	millimeter
MEEMP	Marine Environmental Effects Monitoring Program
MEWG	Marine Environment Working Group
n	Number of individuals (fish)
N	Number of fishing efforts
NIS/AIS	Non-Indigenous Species/Aquatic Invasive Species
No.	Number
NRI	Nunavut Research Institute
p	P-value
PC	Project Certificate
QA/QC	Quality Assurance and Quality Control
QIA	Qikiqtani Inuit Association
SD	Standard Deviation
%	Percent
<	Less than
=	Equal to

6.0 MARINE FISH COMMUNITY PROGRAM

6.1 Introduction

This chapter presents the results of the marine fish community program, a component of the Marine Environmental Effects Monitoring Program (MEEMP) conducted in Milne Inlet during the 2024 open-water season. This chapter was developed in consideration of the potential Project-related effects on marine fish and fish habitat identified in the 2012 Final Environmental Impact Statement (FEIS) and subsequent addenda, as well as monitoring requirements outlined in the Project Certificate (PC) Conditions described in Chapter 1.0, Table 1-2. PC Conditions related to the monitoring of marine fish habitat include PC Conditions No. 99(b)(ii), 99(c), 113, and 114. This chapter complements Chapter 7.0 (Fish Health and Tissue Chemistry), which focuses on the health of the marine fish community in Milne Port, including length-frequency distributions, length-weight relationships, visual assessment of internal and external abnormalities, and tissue chemistry.

6.2 Objectives

The objectives of the MEEMP are outlined in Section 1.3 of Chapter 1.0 (Program Overview). The objectives specific to the marine fish community program component are as follows:

- Characterize the marine fish community at Milne Port in terms of species presence, number of fish caught, and relative abundance.
- Provide species-specific and overall catch per unit effort (CPUE) for each fishing method for 2024 catch data to better understand the efficacy of fishing methods at Milne Port.
- Compare 2024 catch statistics (total abundance and species composition) to previous years using annual data from 2020 through 2024.
- Test for differences in overall CPUE between 2020 to 2024 while accounting for differences in the location and number of sampling locations to better understand trends at Milne Port.

6.3 Study Design

6.3.1 Development of the Study Design (2014-2023)

The current study design for fishing reflects feedback from the Marine Environment Working Group (MEWG), while maintaining consistency with the design used during previous monitoring years to facilitate comparisons of results over time. For the period of 2014 to 2017, the study design remained largely unaltered except for the addition of angling (jigging and trolling) and a trial of minnow traps in 2017; from 2014 to 2017, sampling was conducted over a two-week period in August. In 2018, sampling duration was extended to four weeks of the open-water season instead of two weeks to provide greater sampling effort to better understand the fish community. During this extended sampling period, beach seining (“seine net”) was added as a supplemental fishing method (Table 6-1).

In 2019, the sampling duration was extended to five weeks of the open water season to continue to understand and characterize the fish community. Hoop net traps (also known as fyke nets) were trialled during the 2019 MEEMP fish sampling program and fully added to the program in 2020 to be trialled for a minimum of three

years as a potential replacement method for Fukui traps (Table 6-1). This addition was made following input from the MEWG regarding low capture efficiency in Fukui traps (DFO, QIA; 2018 MEEMP/AIS report comments, M-23042019, M-21062019).

In 2020, the MEEMP fish sampling program was reduced to three weeks during the open water season (continued in 2021); however, unlike in previous years where fishing was conducted alongside other MEEMP program components over the four- to five-week program, a dedicated fish sampling team was created to increase efficiency and catch opportunities in the limited available open water season. Additionally in 2020, trawling was trialled as a fishing method in Milne Port to improve detection of rarely sampled fish species (i.e., bottom-associated taxa) and has been continued to date. Changes were also made to angling efforts in 2020 to target specific areas for species of interest (e.g., Arctic Char [*Salvelinus alpinus*] and Fourhorn Sculpin [*Myoxocephalus quadricornis*]) and to better support the objectives of the MEEMP Fish Health program (see Chapter 7.0 Fish Health and Tissue Chemistry).

In 2021, longlining was trialled as a fishing method in Milne Port to improve capture efficiency and community detection of deeper benthic species; however, as no fish were caught, the method was discontinued for 2022.

In 2022, CPUE calculations were revised for two fishing methods (hoop nets and Fukui traps) to better account for field variability. Previously, CPUE was assessed for these methods as number of fish per 24 hours of effort per trap. For the 2022 and 2023 reports, CPUE metrics were modified to the number of fish per hour of effort per trap, with data from 2020 and 2021 recalculated with the modified CPUE calculations. The three-year trial comparing catches of hoop nets and Fukui traps, as described above, was completed in 2022. It was decided to continue the comparison for a fourth trial year in 2023 with greater attention to matching fishing effort to ensure that conclusions about the catches of the two techniques were not biased by uneven sample size and soak times.

In 2023, aiming to synchronize Fukui trap deployment hours with those of hoop nets to facilitate a more accurate comparison between fish sampling methods and their respective results, fishing methods were modified by decreasing the number of Fukui traps within sets from three to one to align with hoop nets. Increased fishing efforts (e.g., angling (jigging and trolling), Fukui traps, gill nets, and hoop nets) on the western shore near Phillips Creek were conducted in 2023 to further characterize the marine fish community in Milne Port.

Table 6-1: MEEMP Fish Capture Methods per Year (2010-2024)

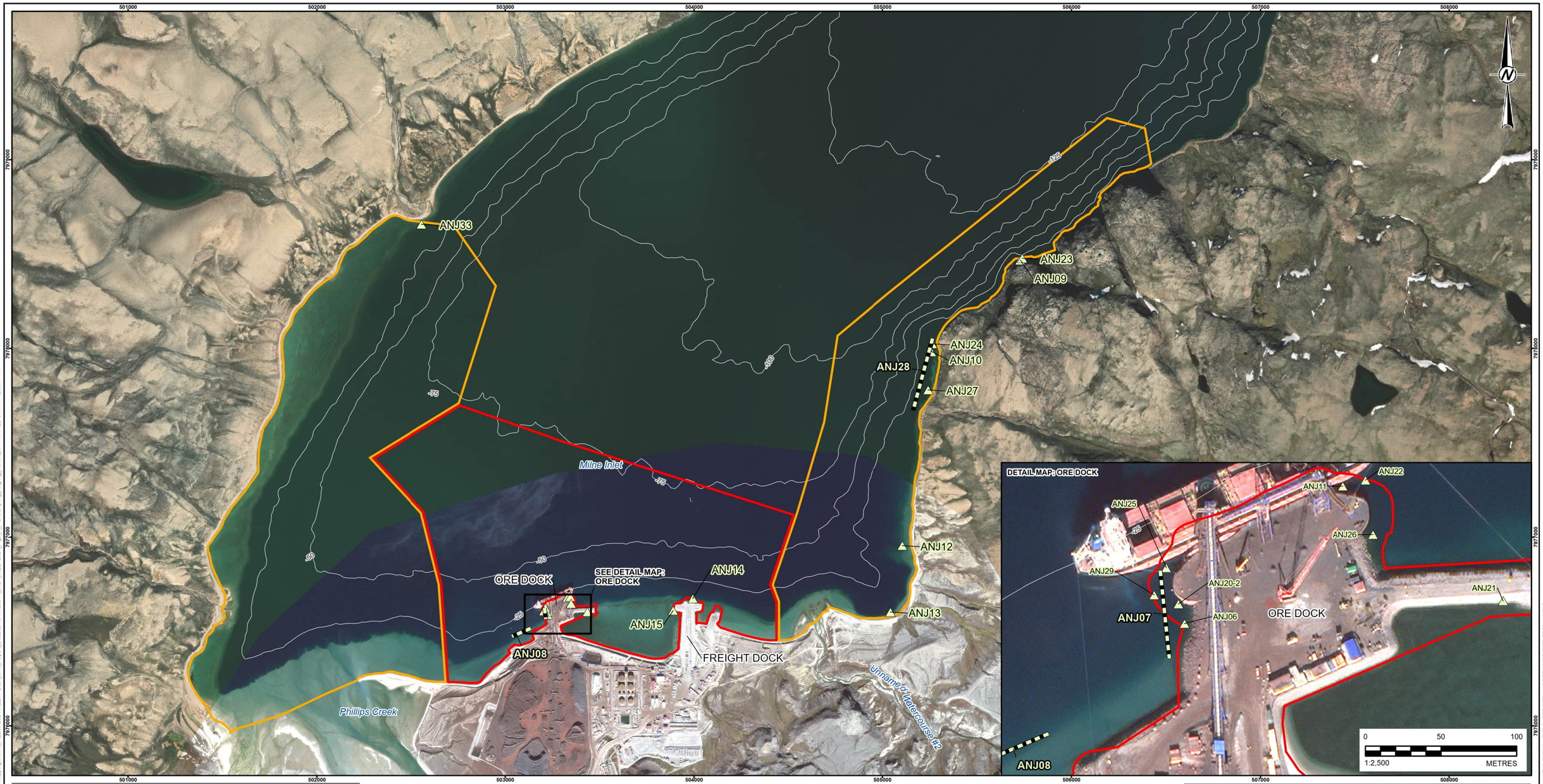
Sampling Method	2010	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Angling - Jigging						√	√	√	√	√	√	√	√
Angling - Trolling						√	√	√	√	√	√	√	
Fukui Trap		√	√	√	√	√	√	√	√	√	√	√	
Gill Net	√	√	√	√	√	√	√	√	√	√	√	√	√
Hoop Net								√*	√	√	√	√	√
Longlining										√*			
Minnow Trap						√*							
Beach Seine Net							√	√	√				
Trawling									√*	√	√	√	√

*Limited sampling events to trial the method.

6.3.2 Modifications to the Program (2024)

In 2024, fishing methods were refined by focusing on angling-jigging, gill nets, and hoop nets, with Fukui traps and angling-trolling no longer utilized as shown to be less effective. This adjustment aimed to streamline efforts and increase statistical replication to enhance the accuracy of comparisons between remaining fish sampling methods during the fifth trial year. Increased fishing efforts (e.g., angling-jigging, gill nets, and hoop nets) on the western and northwestern shores near Phillips Creek were conducted in 2024 to further characterize the marine fish community in Milne Port.

Figure 6-1 through Figure 6-4 illustrate the 2024 deployment locations for each fishing method and identify the boundaries of the two fishing areas (FAs) in Milne Port. Figures 1 through 4 in Appendix 6D illustrate the 2020 through 2024 deployment locations for each fishing method conducted in 2024 (angling-jigging, gill nets, hoop nets, and trawling). Catch data from all methods utilized in Milne Port from 2020 to 2024 are provided in Appendix 6B and Table 3 in Appendix 6D; however, figures and analyses of discontinued methods (e.g., Fukui traps, angling-trolling) can be found in historical reports (e.g., WSP 2023).



LEGEND

- 2024 ANGLING (JIGGING) SAMPLING LOCATION
- 2024 ANGLING (JIGGING) SAMPLING LOCATION
- BATHYMETRIC CONTOUR (25 M INTERVAL)
- INDIRECT PROJECT FOOT PRINT (IPF)
- DIRECT PROJECT FOOT PRINT (DPF)

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REFERENCE(S)

BATHYMETRY CREATED BY GOLDER FROM MULTIPLE DATA SOURCES. FREIGHT DOCK DATA PROVIDED BY HATCH, MARCH 4, 2020. ADDITIONAL MILNE PORT INFRASTRUCTURE DATA OBTAINED FROM CLIENT, MAY 2, 2020 AND MAY 28, 2018. HYDROGRAPHY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. MILNE PORT IMAGERY CAPTURED AUGUST 2020 © 2020 DIGITAL GLOBE, INC. ADDITIONAL IMAGERY COPYRIGHT © 20230730 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTION: UTM ZONE 17 DATUM: NAD 83

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

CONSULTANT
wsp

YYYY-MM-DD	2025-04-08
DESIGNED	BG
PREPARED	AA
REVIEWED	NO
APPROVED	AL

TITLE
ANGLING (JIGGING) LOCATIONS IN MILNE PORT (2024)

PROJECT NO.	CONTROL	REV.	FIGURE
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LEGEND

- 2024 GILLNET DEPLOYMENT LOCATION
- BATHYMETRIC CONTOUR (25 M INTERVAL)
- INDIRECT PROJECT FOOT PRINT (IPF)
- DIRECT PROJECT FOOT PRINT (DPF)

REFERENCE(S)

BATHYMETRY CREATED BY GOLDER FROM MULTIPLE DATA SOURCES. FREIGHT DOCK DATA PROVIDED BY HATCH, MARCH 4, 2020. ADDITIONAL MILNE PORT INFRASTRUCTURE DATA OBTAINED FROM CLIENT, MAY 2, 2020 AND MAY 28, 2018. HYDROGRAPHY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. MILNE PORT IMAGERY CAPTURED AUGUST 2020 © 2020 DIGITAL GLOBE, INC. ADDITIONAL IMAGERY COPYRIGHT © 20230730 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTION: UTM ZONE 17 DATUM: NAD 83

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CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

CONSULTANT
wsp

YYYY-MM-DD	2025-04-08
DESIGNED	BG
PREPARED	AA
REVIEWED	NO
APPROVED	AL

TITLE
GILL NET SAMPLING LOCATIONS IN MILNE PORT (2024)

PROJECT NO.	CONTROL	REV.	FIGURE
CA0026317.6821	86000	0	6-2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

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LEGEND

- 2024 HOOP NET DEPLOYMENT LOCATION
- BATHYMETRIC CONTOUR (25 M INTERVAL)
- INDIRECT PROJECT FOOT PRINT (IPF)
- DIRECT PROJECT FOOT PRINT (DPF)

0 250 500

1:15,000 METRES

REFERENCE(S)

BATHYMETRY CREATED BY GOLDER FROM MULTIPLE DATA SOURCES. FREIGHT DOCK DATA PROVIDED BY HATCH, MARCH 4, 2020. ADDITIONAL MILNE PORT INFRASTRUCTURE DATA OBTAINED FROM CLIENT, MAY 2, 2020 AND MAY 28, 2018. HYDROGRAPHY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. MILNE PORT IMAGERY CAPTURED AUGUST 2020 © 2020 DIGITAL GLOBE, INC. ADDITIONAL IMAGERY COPYRIGHT © 20230730 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTION: UTM ZONE 17 DATUM: NAD 83

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

CONSULTANT
wsp

YYYY-MM-DD	2025-04-08
DESIGNED	BG
PREPARED	AA
REVIEWED	NO
APPROVED	AL

TITLE
HOOP NET LOCATIONS IN MILNE PORT (2024)

PROJECT NO.	CONTROL	REV.	FIGURE
CA0026317.6821	86000	0	6-3

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501000 502000 503000 504000 505000

7978000 7977000 7976000

TR06 TR04 TR05 TR03 TR07 TR02 TR01

-75 -100 -50 -25

Milne Inlet

ORE DOCK

FREIGHT DOCK

Phillips Creek

Unnamed Watercourse #2

N

LEGEND

- 2024 TRAWLING SAMPLE LOCATION
- BATHYMETRIC CONTOUR (25 M INTERVAL)
- INDIRECT PROJECT FOOT PRINT (IPF)
- DIRECT PROJECT FOOT PRINT (DPF)

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REFERENCE(S)

BATHYMETRY CREATED BY GOLDER FROM MULTIPLE DATA SOURCES. FREIGHT DOCK DATA PROVIDED BY HATCH, MARCH 4, 2020. ADDITIONAL MILNE PORT INFRASTRUCTURE DATA OBTAINED FROM CLIENT, MAY 2, 2020 AND MAY 28, 2018. HYDROGRAPHY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. MILNE PORT IMAGERY CAPTURED AUGUST 2020 © 2020 DIGITAL GLOBE, INC. ADDITIONAL IMAGERY COPYRIGHT © 20230730 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTION: UTM ZONE 17 DATUM: NAD 83

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

CONSULTANT
wsp

YYYY-MM-DD	2025-04-08
DESIGNED	BG
PREPARED	AA
REVIEWED	NO
APPROVED	AL

TITLE
TRAWLING SAMPLING LOCATIONS IN MILNE PORT (2024)

PROJECT NO.	CONTROL	REV.	FIGURE
CA0026317.6821	86000	0	6-4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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6.3.3 Endpoints

CPUE is the primary metric used for characterization of the fish catch data, in addition to total number of fish caught, taxa richness, and relative abundance of taxa. Comparison using these metrics is only meaningful within a fishing method and this report does not make statistical comparisons between methods. Statistical comparisons of CPUE data within methods, from 2020 to 2024 and contrasting the two FAs (Direct FA [DPF] and Indirect FA [IPF]; see Section 6.4.1.2), were completed for this report. A statistical analysis of CPUE over the course of the entire MEEMP program (2015 to 2023) was not feasible due to the limited sample sizes and inconsistent fishing effort data for sampling events conducted prior to 2020.

6.4 Materials and Methods

6.4.1 Field Methodology

Fish sampling was conducted in the Milne Port area from 28 July to 21 August 2024 using angling-jigging, gill net, hoop net and trawling capture methods (Figure 6-1 to Figure 6-4). Fish sampling locations were generally consistent with those used in previous years but did include exploratory fishing efforts on the western and northern shores of Milne Port. Fishing effort in 2024 occurred over a three-week period during the open-water season. When possible, fish species were identified in the field and released alive. All fish mortalities were retained and processed as described in Chapter 7.0 (Fish Health and Tissue Chemistry).

6.4.1.1 Permitting

The following scientific data collection permits were obtained prior to the start of the 2024 fish sampling program:

- Fisheries and Oceans Canada (DFO) Licence to Fish for Scientific Purposes Permit # S-24/25-1042-NU
- DFO Animal Use Protocol Permit # OPA-ACC-2023-05
- Nunavut Research Institute (NRI) Scientific Research Licence # 02 027 24R-M

Copies of permits are provided in Appendix 6A.

6.4.1.2 Fishing Area (FA)s

Two distinct FAs were identified for Milne Port; one encompassing waters directly in or adjacent to the terminal infrastructure footprint (Direct Project Footprint area; DPF) and one encompassing waters outside (west and east) of the terminal infrastructure footprint (Indirect Project Footprint; IPF). The two FAs reflected different exposure levels relative to terminal operations and marine berthing activities. The integration of FAs in the study design provided an opportunity to better characterize variability in Milne Port area fish communities and standardize sampling locations among years. A description of the FAs is provided in Table 6-2 and their spatial arrangement is shown in Figure 6-1 to Figure 6-4.

Table 6-2: FAs (FAs) of Milne Port

FA	Area (ha)	Description
Direct Project Footprint (DPF)	192.14	The DPF includes the immediate Area of Influence adjacent to Project infrastructure, and includes shoreline in the vicinity of the Ore Dock, ore stockpile, Freight Dock, and fuel farm. The DPF is also an area of relatively high marine traffic compared to the IPF (see below). Habitat in the DPF is characterized by mixed (sand/gravel to cobble/boulder)[1] shoreline including coarse rock offsetting habitat along the Ore Dock and Freight Dock. The DPF extends 1.38 km from shore at its western boundary, and 0.98 km from shore at its eastern boundary.
Indirect Project Footprint (IPF)	405.64	The IPF[2] includes areas along the shorelines to the east and west of the DPF, outside of the immediate Area of Influence. The IPF includes the mouth of Phillips Creek, which is characterized by soft substrate (sand and gravel) and brackish water, as well as the shoreline to the east of the DPF, which is also characterized by brackish water due to input from Unnamed Watercourse #2, as well as substrate ranging from soft sand to mixed gravel and cobble. The IPF extends 2.63 km from shore at the mouth of Phillips Creek at its western boundary, and 2.77 km from the southern shore of Milne Inlet.

[1] See Chapters 3.0 and 5.0 for definitions of substrate size categories.

[2] Note: IPF does not include FAs around Tugaat River or Koluktoo Bay.

6.4.1.3 Fishing Methods

Four different fishing methods were used to sample habitats within Milne Port. The fishing methods are described in detail below in Sections 6.4.1.3.1 to 6.4.1.3.5. Full details for each fishing sampling effort can be found in Appendix 6B.

6.4.1.3.1 Angling-jigging

Angling-jigging was conducted between 3 August and 18 August 2024 to characterize the demersal and pelagic fish community in Milne Port (Figure 6-1; Appendix 6B). Jigging occurred from a stationary position or during vessel movement with two to three rods and lines deployed from the field vessel (Appendix 6C – Photo 1). Hooks or spoon lures were allowed to hit the bottom, then flicked upward to attract bottom fish. For each effort, the start and end time, the depth, the number of rods, and the type of lure were recorded as well as a habitat description including the substrate type. Start and end coordinates of angling efforts were recorded using a Garmin GPS (global positioning system) and logged in a field notebook.

6.4.1.3.2 Gill Nets

Standardized monofilament gill nets were deployed between 3 August and 18 August 2024 to sample shallow (i.e., subtidal areas to a maximum depth of -15 metres [m] CD [chart datum]) for characterization of pelagic fish communities present in the Milne Port area (Figure 6-2; Appendix 6B). Each gill net consisted of six panels with each panel measuring 15.2 m in length and 2.4 m in width, with panel mesh sizes (stretch) of 2.5 centimetre (cm), 3.8 cm, 5.1 cm, 6.4 cm, 7.6 cm, and 10.2 cm. The gill nets were deployed in a shore-perpendicular orientation (smallest mesh size closest to shore) and were either suspended just below the water surface or were weighted to run along the seabed (Appendix 6C – Photo 2). Nets were examined for fish presence at least once every two

hours for the duration of deployment (soak duration was at most four hours[1]). For each effort, the start and end time[2] and the minimum and maximum set depth were recorded as well as a habitat description including substrate type. The beginning and the end positions of each net were recorded using a Garmin GPS and logged in a field notebook.

6.4.1.3.3 Hoop Nets

Hoop nets were used to sample demersal fish in nearshore habitat at Milne Port between 4 August and 17 August 2024 (Figure 6-3; Appendix 6B). Sampling was conducted using a single 5 m-long dual-chamber hoop net with a 1 m-diameter mouth, two 10 m-length wing panels, and 32 mm (stretch) mesh (Appendix 6C – Photo 3). Nets were set in the subtidal zone during low tide with the wing panels running to a maximum water depth of -1 m CD. The end of the hoop net wings and body were weighted to lay flat on the seabed, targeting demersal species. Orientation of the hoop nets varied by deployment type, with nets either placed ‘perpendicular’ (targeting fish moving through the subtidal) or ‘parallel’ (targeting fish moving in and out of sources of freshwater input; Figure 6-5). Nets were generally set for two to three consecutive days and were checked every day during deployment, weather permitting. For each sampling effort (referred to as ‘sets’ consisting of a single net per set), the start and end times and date, the check times and date, and the minimum and maximum set depth were recorded as well as a habitat description including substrate type.

Fishing locations were recorded using a Garmin GPS and logged in a field notebook.

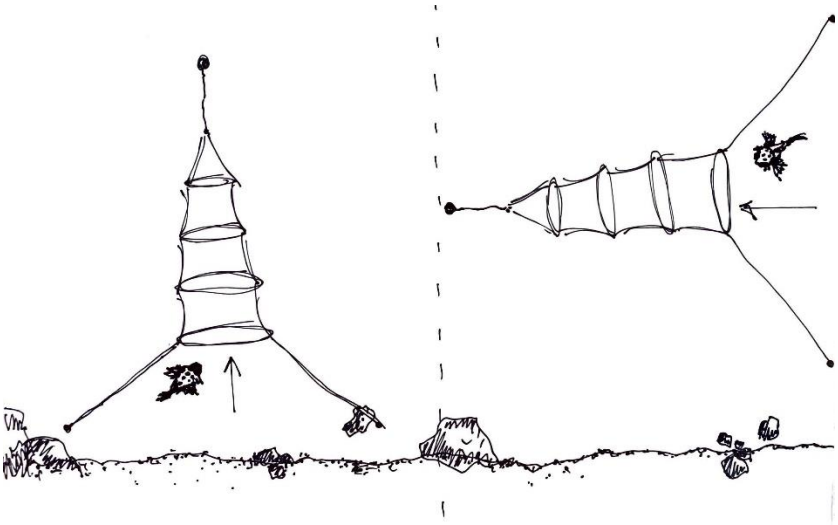


Figure 6-5: Hoop Net Orientations (Perpendicular [left] and Parallel [right]) Utilized in Milne Port

[1] The planned maximum soak time of gill nets was four hours, but this was exceeded in one case due to large numbers (40 fish) captured in one set, requiring extra handling time to extract each fish safely.

[2] End times of efforts were recorded as the time when the net is fully out of the water.

6.4.1.3.4 Trawling

Trawl sampling, conducted between 8 August and 19 August 2024, consisted of towing an otter trawl from a vessel for a set time (between 0.15 and 0.50 hours) and trawl distance (between 200 and 1,250 m; Figure 6-4; Appendix 6B). The otter trawl comprised a cone shaped net composed of a 4.9 m wide diameter mouth held open by two wooden doors on either side of the opening (Appendix 6C – Photo 4). The front section of the net was composed of 38 mm stretched nylon mesh. The rear of the net (cod end) was composed of 32 mm stretched mesh. The otter trawl was deployed from the vessel's hydraulic A-frame system, with the net towed slowly off the bow while the vessel slowly reversed at a speed of one knot. Once the net reached the seafloor, it was raised slightly (to ~2 to 3 m above bottom) to minimize impacts on the sea floor and to target benthic/demersal fish species. Sampling locations were selected based on water depth, bottom morphology using bathymetric charts, and previously sampled locations. Sample contours ranged from 30 to 54 m in depth. Start and end waypoints for otter trawl sampling were recorded using the onboard navigation system (Raymarine Axiom Hybrid Touch Pro with Navionics+ Bundle) and logged in a field notebook (Appendix 6B). For each effort, the start and end time, the depth contour, and the trawl speed were recorded as well as a short description of the location.

6.4.2 Data Analysis

Consistent with previous years, figures were prepared for visualization of the fish catch data by sampling method. Descriptive summary statistics (e.g., mean, standard deviation [SD], CPUE) were also used to compare total catch and catch data among common taxa, sampling method and survey year. To remain consistent with the 2020 to 2023 reports (Golder 2021, 2022; WSP 2023), descriptive summary statistics were also provided for length and weight data in Appendix 6D – Tables 1 and 2. Catch data, specifically CPUE, for each fishing method were reported according to the units in Table 6-3.

Table 6-3: Catch Per Unit Effort Units for each Fishing Method (2024)

Fishing Method	Unit	Description
Angling-Jigging	Fish·hr^{-1}·rods^{-1}	Relative to 1 hour of effort and the number of rods
Gill Net	Fish·hr^{-1}·100 m^{-1}	Relative to 1 hour of effort and for the length of the net adjusted via correction factor to 100 m
Hoop Net	Fish·hr^{-1}	Relative to 1 hour of deployment
Trawling	Fish·hr^{-1}	Relative to 1 hour of deployment

As was done in previous years, trawling was excluded from statistical analysis due to limited effort numbers.

For angling-jigging, gill net, and hoop net datasets, trends in CPUE as a function of sampling year and sampling location (i.e., FA) were assessed using a generalized linear model with a negative binomial distribution. The response variable in the model was the number of fish caught, and to account for differences in effort, each model used an offset that depended on the type of sampling effort; for angling-jigging, the offset was calculated by multiplying the number of rods by the duration of fishing period. For gill nets, the offset was calculated by multiplying the duration of set period by the gill net correction factor, which standardized fishing to 100 m of net. For hoop nets, the offset was simply the duration of set period. The models included the main effects of year (as a categorical variable) and sampling location (i.e., FA), as well as the interaction between the two.

A significance level of 0.05 was used to interpret results. If the interaction between year and FA was significant, or if the interaction was not significant but the main effect of year was significant, multiple comparisons with familywise error corrections were used to assess specific differences between FAs within year or between individual sampling years, respectively. If the interaction between year and FA was not significant but the main effect of FA was statistically significant, a multiple comparison was not performed, since there were only two FAs, and hence a significant main effect of FA indicated a significant difference between the FAs. *P*-values <0.05 were considered to indicate significance between groups. Analyses were conducted using R software version 4.3.2 (R Core Team 2024).

Power Analysis

A power analysis was conducted using the 2020 to 2024 data to estimate the sample size needed to detect Project-related change based on levels of observed variability between FAs. The power analysis was conducted to evaluate the number of efforts required to achieve 80% statistical power to detect 20%, 30% and 40% reductions in CPUE in the DPF relative to the IPF in 2024 (for models with a significant interaction between year and area) or in 2024 relative to 2023 (for models without a significant interaction). A full description of the power analysis methodology is provided in Appendix 6E.

6.4.3 Field Quality Assurance and Quality Control

Quality assurance and quality control (QA/QC) measures for quantitative and qualitative data collected during fishing surveys included the following:

- Prior to fishing activities, field team members were briefed on sampling protocols and each individual's role in data collection. Fishing methodologies were standardized to minimize the introduction of sampling error during sample collection.
- Nets and traps were cleaned between efforts and checked for breakages or failures to maintain consistency in efforts. Broken nets and traps were repaired or replaced before being put back into use.
- Field notes were taken during surveys using prepared field sheets to provide a comprehensive data collection process and a consistent record of sampling effort. A second team member reviewed data from field sheets and entered them into a spreadsheet while checking for inconsistencies or missing information. A third team member reviewed the entered data for inconsistencies and completeness.
- Scans of the field datasheets and GPS waypoints were saved to a laptop computer and external hard drive at the end of each workday. Fish were identified to lowest practicable level (species, where possible). Any identification that was questionable in the field was verified using fish field guides. Fish that could not be identified to species level in the field were retained for subsequent identification by Biologica Environmental Services Ltd., an accredited taxonomic laboratory.

6.5 Results

Details of fish catch data from 2020 to 2024 (all methods) are presented in Appendix 6B. Field photographs are presented in Appendix 6C. Supplemental results figures and tables are provided in Appendix 6D, and power analysis to evaluate the number of efforts required to detect reduction in CPUE in the DPF of 20%, 30% and 40% compared to the IPF, with 80% statistical power, is detailed in Appendix 6E.

6.5.1 2024 Summary

A total of 633 fish, representing 10 known taxa, was recorded in the DPF and IPF from 66 fishing efforts using a combination of methods during the 2024 open water survey season in Milne Port (Table 6-4; Table 6-5). A total of 21 angling-jigging events were undertaken, with 12 events in the DPF and nine (9) events in the IPF (Table 6-5; Figure 6-1). The total effort for angling methods for Milne Port was 45.27 rod-hours, with jigging ranging between 0.15 and 1.25 rod-hours per event (Appendix 6B). A total of 10 gill net sets were conducted, with soak times ranging from 1.53 hr to 4.37 hr, with an average soak time of 2.74 hr and total soak time for all gill net sampling combined of 54.69 hr (Appendix 6B). A total of 18 hoop net sampling events were undertaken with 10 sets in the DPF and eight (8) sets in the IPF (Table 6-5, Figure 6-4). Total hoop net sampling effort was 1069.1 hr with an average sampling effort per net of 59.97 hr (Appendix 6B). In 2024, seven trawl sampling events were conducted in the Milne Port, five (5) in the DPF and two (2) in the IPF (Table 6-3; Figure 6-5).

Table 6-4: Total Number of Fish Caught by Taxon and Fishing Method (2024)

Taxa	Angling - Jigging		Gill Net		Hoop Net		Trawling		Total
	DFP	IPF	DFP	IPF	DFP	IPF	DFP	IPF	
Arctic Alligatorfish	0	0	0	0	0	0	0	2	**2**
Arctic Char	1	0	46	80	1	0	0	0	**127**
Arctic Sculpin	0	1	0	0	0	1	0	0	**2**
Arctic Staghorn Sculpin	0	5	0	0	0	0	0	6	**11**
Atlantic Spiny Lumpsucker	0	0	0	0	0	0	1	1	**1**
Fourhorn Sculpin	73	34	186	71	12	3	0	0	**379**
Pacific Cod	21	1	0	1	0	0	0	0	**23**
Ribbed Sculpin	0	0	0	0	0	0	1	9	**10**
Shorthorn Sculpin	26	35	0	10	0	0	0	0	**71**
Spatulate Sculpin	0	0	0	0	0	0	1	1	**2**
Unidentified Cod	0	0	0	0	0	0	0	2	**2**
Unidentified Sculpin	0	1	1	0	0	1	0	0	**3**
Total	**120**	**77**	**233**	**162**	**13**	**5**	**3**	**20**	**633**

Similar to previous sampling years (SEM 2016, 2017; Golder 2018, 2019, 2020, 2021, 2022; WSP 2023), Fourhorn Sculpin (60% of catch) and Arctic Char (20% of catch) were the two most common fish species captured among all sampling methods combined in 2024 (Table 6-4; Appendix 6C – Photos 5 and 6; Appendix 6D – Table 3). The remaining 20% of the total catch was composed of Shorthorn Sculpin (*Myoxocephalus scorpius*, 11%), Polar Cod (*Boreogadus saida*; 4%), Staghorn Sculpin (*Leptocottus armatus*; 2%), Ribbed Sculpin (*Triglops pingelii*, 2%), with the remaining 1% of total catch comprised of Pacific Cod[3] (*Gadus macrocephalus*), Arctic Alligatorfish (*Aspidophoroides olrikii*), Arctic Sculpin (*Myoxocephalus scorpioides*), Spatulate Sculpin (*Icelus spatula*), Atlantic Spiny Lumpsucker (*Eumicrotremus spinosus*), unidentified sculpins (Family Cottidae) and juvenile cod identified only to family (Family Gadidae.; Table 6-4; Appendix 6C – Photos 7 to 12).

[3] Taxonomic nomenclature changes in 2023 adopted Greenland Cod under the name Pacific Cod (FishBase 2023; GBIF 2023).

Table 6-5: Fishing Effort Summary and Fish Captured by Fishing Method and Area (2024)

Fishing Method	Number of Efforts		Total Effort Hours		Total Number of Fish Captured	
	DPF	IPF	DPF	IPF	DPF	IPF
Angling - Jigging	12	9	8.48	4.37	120	77
Gill Net	10	10	26.57	28.12	233	162
Hoop Net	10	8	547.92	521.15	13	5
Trawling	5	2	2.15	0.67	3	20
Total	**37**	**29**	**585.12**	**554.31**	**369**	**264**

Note: Fishing effort numbers do not include efforts conducted within the reference areas (Tugaat River and Koluktoo Bay).

In 2024, trawling and jigging had the highest taxa diversity of captured fish (five and six known taxa, respectively), but trawling yielded overall low numbers of each taxon (Table 6-4). Only one taxon captured by trawling was represented in any other sampling method. Gill nets captured four known taxa, with 72% of the fish recorded being Fourhorn Sculpin. Hoop nets captured three known taxa, primarily Fourhorn Sculpin (Table 6-4).

In 2024, as in previous years, gill nets captured higher numbers of fish than any other method, with 395 fish (62% of the total) captured by gill net (Table 6-5). Consistent with other years, angling-jigging captured more fish in the DPF compared to the IPF and was the second most effective capture method (31% of total catch; Table 6-5). Hoop nets and trawling captured 18 and 23 fish respectively, with hoop nets having a higher total catch within the DPF than the IPF, while the opposite was seen for trawling (Table 6-4; Table 6-5).

Mean CPUE of the three dominant taxa captured (Arctic Char, Fourhorn Sculpin, and Shorthorn Sculpin) was higher than 2023 for all fishing methods with the exception of Fourhorn and Shorthorn Sculpin via hoop nets where CPUE was overall slightly lower than in 2023; however, CPUE values continued to have variability in 2024 (Table 6-6). Arctic Char and Fourhorn Sculpin were most effectively caught by gill nets with mean CPUEs of 2.1±2.3 fish·hr^{-1}100 m^{-1} and 4.0±6.4 fish·hr^{-1}100 m^{-1}, respectively, while Shorthorn Sculpin were most effectively captured by jigging (1.6±2.2 fish·hr^{-1}rod^{-1}; Table 6-6). CPUE was low overall for hoop nets while trawling captured fish generally not represented in other fishing methods (Table 6-6).

Table 6-6: Catch Per Unit Effort Summary Statistics (Mean ± SD across sites) by Taxon and Fishing Method (2024)

Taxa[1]	Angling – Jigging (fish·hr^{-1}·rod^{-1})	Gill Net (fish·hr^{-1}·100m^{-1})	Hoop Net (fish··hr-1^{-1})	Trawling (fish·hr^{-1})
Arctic Char	0.00±0.00	2.12±2.33	<0.01±0.01	0.00±0.00
Fourhorn Sculpin	3.01±4.60	4.04±6.37	0.02±0.02	0.00±0.00
Pacific Cod	0.33±0.44	0.01±0.06	0.00±0.00	0.00±0.00
Shorthorn Sculpin	1.61±2.24	0.16±0.35	0.00±0.00	0.00±0.00
Other Sculpins	0.17±0.63	0.01±0.05	<0.01±0.01	6.95±10.31
Other Fish	0.00±0.00	0.00±0.00	0.00±0.00	2.10±3.60
All Fish	**5.12±5.08**	**6.34±6.42**	**0.02±0.02**	**9.05±13.22**

[1] Fish taxa were grouped based on relative abundance percentages from 2020 to 2024 catch data. Taxa with abundances <5% were grouped as follows: other sculpin (Arctic Sculpin, Arctic Staghorn Sculpin, Ribbed Sculpin, Spatulate Sculpin, unidentified sculpin) and other fish (Arctic Alligatorfish, Atlantic Spiny Lumpsucker, Polar Cod, unidentified cods).

6.5.2 Interannual Comparisons

6.5.2.1 Fish Community

From 2020 to 2024, a total of 3,018 fish were caught within Milne Inlet during open-water surveys (Appendix 6B, Appendix 6D – Tables 3 and 4). The dominant fish taxon caught over this five-year period was Fourhorn Sculpin (57%) followed by Arctic Char (16%) across all methods combined (Appendix 6D – Tables 3 and 4). Taxonomic groups with <5% relative abundance were consolidated for analyses[4], revealing consistent variations across fishing methods and FAs, reflecting similar trends from previous years. Gear-specific relative abundances of fish species across years (2020 to 2024) remained consistent (Figure 6-6; Table 6-7; Appendix 6D – Table 5, Figure 5).

Angling-jigging predominantly caught Fourhorn Sculpin, Shorthorn Sculpin, and Pacific Cod (average relative abundance 2020–2024 = 69%, 15%, and 12%, respectively; Figure 6-6; Table 6-7; Appendix 6D). Angling-jigging captured fewer Pacific Cod, but more Fourhorn Sculpin were captured in the IPF in 2024 compared to 2020-2022 averages (Figure 6-6). Gill nets primarily captured Fourhorn Sculpin and Arctic Char (average relative abundance 2020–2024 = 55% and 39%, respectively; Figure 6-6; Table 6-7; Appendix 6D). Hoop nets almost exclusively caught Fourhorn Sculpin (average relative abundance 2020–2024 = 96%; Figure 6-6; Table 6-7; Appendix 6D).

Trawling consistently caught only non-dominant sculpin species (e.g., Arctic Staghorn Sculpin, Ribbed Sculpin, Spatulate Sculpin, and unidentified sculpins) and rarely caught fish taxa (e.g., Atlantic Poacher, Atlantic Spiny Lumpsucker, Polar Cod, unidentified cod, and unidentified snailfish; average relative abundance 2020–2024 = 78% and 22%, respectively; Figure 6-6; Table 6-7).

[4] Taxa with abundances <5% were grouped as follows for all years in which they were present: other sculpins (Arctic Sculpin, Arctic Staghorn Sculpin, Ribbed Sculpin, Spatulate Sculpin, and unidentified sculpins) and other fishes (Arctic Alligatorfish, Arctic Cod, Atlantic Poacher, Atlantic Spiny Lumpsucker, Fourline Snakeblenny, Halfbarred Pout, Northern Sand Lance, Polar Cod, Saddled Eelpout, unidentified cods, and unidentified snailfish). These taxonomic groupings are carried forward throughout this report.

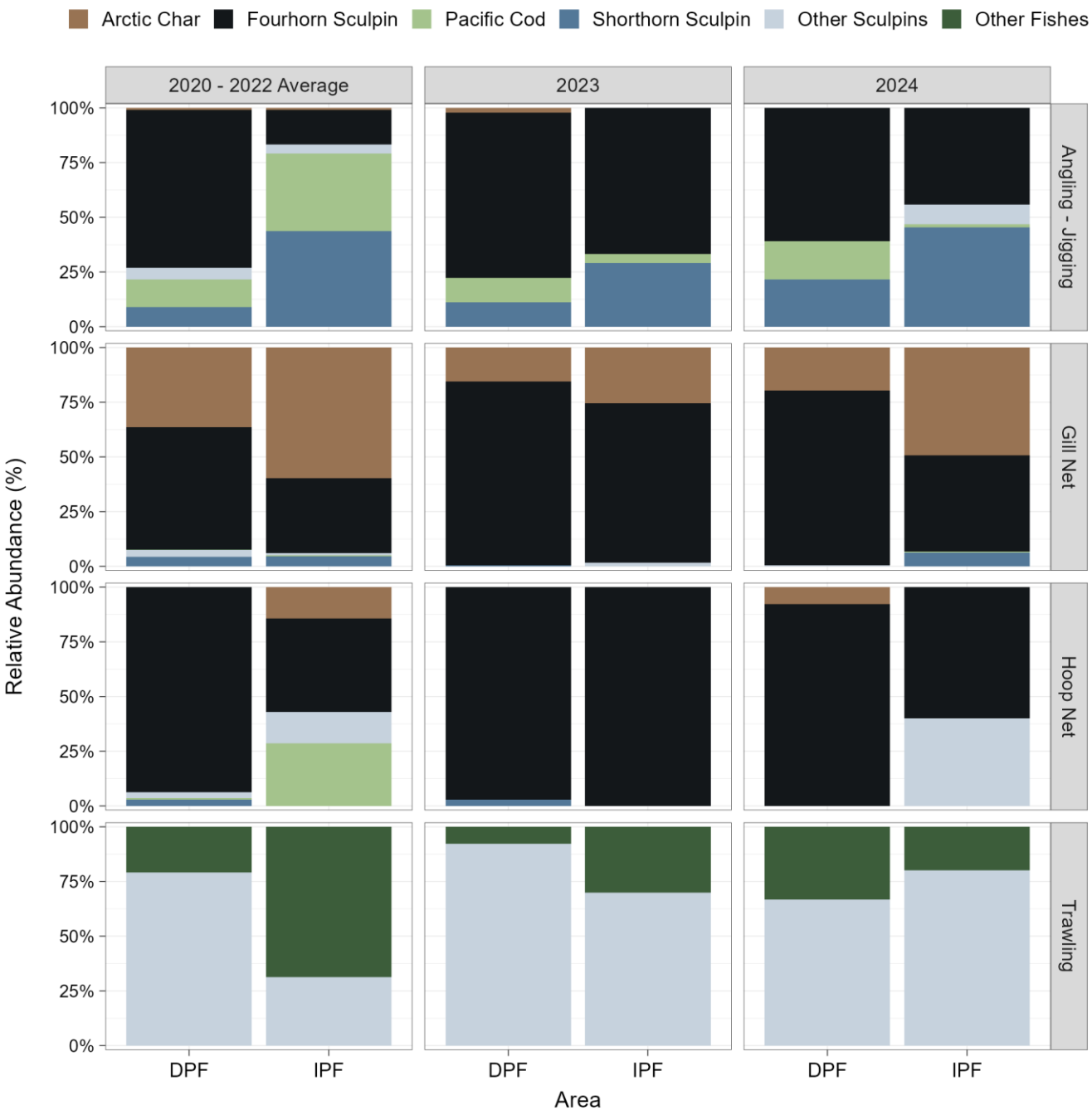


Figure 6-6: Relative Abundances of Grouped Taxa per Fishing Method and FA

Note: 2020-2022 values were averaged. See Appendix 6D for See Appendix 6D – Figure 5 for full 2020-2022 details. See footnote 3 for taxonomic grouping inclusions.

Table 6-7: Relative Abundances of Grouped Taxa by Fishing Method and Year (2020-2024)

Method[1]	Year	Arctic Char	Fourhorn Sculpin	Pacific Cod	Shorthorn Sculpin	Other Sculpin	Other Fish
Angling - Jigging	2020-2022 Average	1%	64%	16%	14%	5%	0%
	2023	1%	72%	9%	17%	0%	0%
	2024	0%	54%	11%	31%	4%	0%
Gill Net	2020-2022 Average	45%	48%	0%	4%	2%	0%
	2023	18%	82%	0%	0%	0%	0%
	2024	32%	65%	0%	3%	0%	0%
Hoop Net	2020-2022 Average	1%	91%	2%	3%	3%	0%
	2023	0%	98%	0%	2%	0%	0%
	2024	6%	83%	0%	0%	11%	0%
Trawling	2020-2022 Average	0%	0%	0%	0%	52%	48%
	2023	0%	0%	0%	0%	79%	21%
	2024	0%	0%	0%	0%	78%	22%

Note: Grey highlighting indicated relative abundances >40%. See footnote 3 for taxonomic groupings. See Appendix 6D - Table 5 for full 2020-2022 details.

6.5.2.2 Catch by Fishing Method

Trawling remained a key contributor to variations in taxa richness between 2020 and 2024 (Appendix 6D). Taxa richness for trawling increased from an average of 4.3 taxa during 2020–2022 to six taxa in 2023, reflecting balanced efforts and the capture of diverse fish groups. In 2024, taxa richness for trawling declined slightly to five taxa, which may be attributed to refined trawling efforts and the continued practice of avoiding seabed contact during deployment (Table 6-8). This precautionary approach, aimed at minimizing environmental disturbance, may have influenced taxa capture dynamics, particularly for less dominant groups.

Overall, taxa richness decreased slightly in 2024 compared to 2023, with a total of 10 unique taxa recorded in 2024 compared to 12 taxa in 2023 (Table 6-8; Appendix 6D – Tables 3). Taxa richness for gill nets showed no change from 2023 to 2024, while taxa richness for jigging and hoop nets increased from 2023 to 2024. Annual changes in taxa richness may be attributed to adjustments in sampling effort (e.g., time spent exploratory fishing for at the reference area) and interannual variation in catch.

Table 6-8: Taxa Richness by Fishing Method (2020-2024)

Fishing Method	Number of Taxa		
	2020-2022 Mean	2023	2024
Angling - Jigging	4.3	4	5
Gill Net	5.0	4	4
Hoop Net	3.0	2	3
Trawling	4.3	6	5
Total	10.3	12	10

Note: Only unique taxa are included – unidentified cods and sculpin were removed as they may be of an identified taxon. See Appendix 6D - Table 6 for full 2020-2022 details.

Total Catch-Per-Unit-Effort (All Species)

Trends in mean CPUE were highly variable among FAs, years, and fishing methods (Table 6-9; Appendix 6D – Figure 6, Table 7). For angling-jigging, mean 2024 CPUE in the DPF (4.8±5.6 fish·hr^{-1}·rod^{-1}) was higher compared to 2023 but lower than the 2020-2022 mean (Table 6-9). Within the IPF, mean angling-jigging CPUE was 5.6±4.6 fish·hr^{-1}·rod^{-1}, a large increase compared to 2023 and a slight increase from the 2020-2022 mean; this increase may be due to efforts conducted at new sites within Milne Port (e.g., northwest shore). CPUE for angling-jigging differed significantly between FAs (p=0.049) but did not differ among sampling years (p=0.105) and there was no significant interaction (p=0.3; Table 6-10; Appendix 6D – Table 8). Angling-jigging CPUE was 17% lower in the DPF than in the IPF sampling area in 2024 (p=0.7), but 20–218% higher than in the IPF in 2020–2023 (p=0.047 for 2023 and p>0.1 for all other years; Figure 6-7).

Table 6-9: Catch Per Unit Effort Summary Statistics by Method, Year and FA, All Fish Species Combined

Fishing Method (CPUE Unit)	Year	FA	Sampling Events	CPUE Summary Statistic				
				Mean	Median	SD	Min	Max
Angling – Jigging (fish·hr^{-1}·rod^{-1})	2020-2022	DPF	45	6.66	4.13	7.01	0.00	31.58
		IPF	19	4.07	3.33	4.18	0.00	16.80
	2023	DPF	8	4.04	3.15	4.29	0.00	13.08
		IPF	8	0.96	0.00	1.56	0.00	4.00
	2024	DPF	12	4.77	2.58	5.57	1.075	20.80
		IPF	9	5.59	6.67	4.64	0.00	12.63
Gill Net (fish·hr^{-1}·100m^{-1})	2020-2022	DPF	37	4.06	3.29	3.47	0.00	15.06
		IPF	31	4.40	2.68	8.38	0.00	48.49
	2023	DPF	10	6.91	5.72	6.88	0.00	22.27
		IPF	10	2.65	2.80	2.36	0.00	6.97
	2024	DPF	10	7.66	6.62	7.62	0.00	27.02
		IPF	10	5.03	3.83	5.02	0.89	18.36
Hoop Net (fish·hr^{-1})	2020-2022	DPF	19	0.10	0.05	0.16	0.00	0.55
		IPF	8	<0.01	<0.01	<0.01	0.00	0.01
	2023	DPF	7	0.10	0.04	0.18	0.00	0.51
		IPF	7	0.02	0.00	0.06	0.00	0.158
	2024	DPF	10	0.03	0.03	0.02	0.00	0.069
		IPF	8	0.02	0.00	0.03	0.00	0.076
Trawling (fish·hr^{-1})	2020-2022	DPF	2	74.28	74.28	59.52	32.195	116.36
		IPF	5	74.75	10.00	145.11	0.00	333.75
	2023	DPF	2	16.06	16.06	16.18	4.615	27.50
		IPF	2	23.60	23.60	27.72	4.00	43.20
	2024	DPF	5	3.07	0.00	5.80	0.00	13.33
		IPF	2	24.00	24.00	16.97	12.00	36.00

Note: See Appendix 6D - Table 7 for full details of 2020-2022 data.

Mean CPUE of gill nets in 2024 was higher in the DPF (7.7±7.6 fish·hr^{-1}·100m^{-1}) than in the IPF (5.0±5.0 fish·hr^{-1}·100m^{-1}), and CPUE increased from 2023 and 2020-2022 mean results in both FAs (Table 6-9). CPUE for gill nets differed significantly between FAs (p=0.002) and among years (p=0.013) but there was no significant interaction (p=0.473; Figure 6-7; Table 6-10; Appendix 6D – Table 8). Gill net CPUE was 4–176% higher in the DPF than in the IPF between 2020 and 2023 (p=0.009 for 2023 and p>0.06 for 2020–2022) and 52% higher in 2024 (p=0.3). In both the DPF and the IPF, mean CPUE in 2020–2023 was 10–62% lower than in 2024 (p>0.09 for all; Figure 6-7).

Mean CPUE of hoop nets remained low in 2024 in both FAs (<0.1±<0.1 fish·hr^{-1}; Table 6-9), with CPUE similar to or lower than that of previous years. CPUE for hoop nets differed significantly between FAs (p<0.001) and among years (p=0.011; Figure 6-7; Table 6-10); an interaction could not be included due to the years of zero catches in the IPF (Figure 6-7; Table 6-10; Appendix 6D – Table 8). Hoop net CPUE was 1,010% higher in the DPF compared to the IPF (p<0.001; Figure 6-7). In 2024, mean CPUE for hoop nets was 56–57% higher than in 2021 and 2023 (p>0.9 for both) but 60% and 68% lower than in 2020 and 2022, respectively (p>0.2 for both; Figure 6-7).

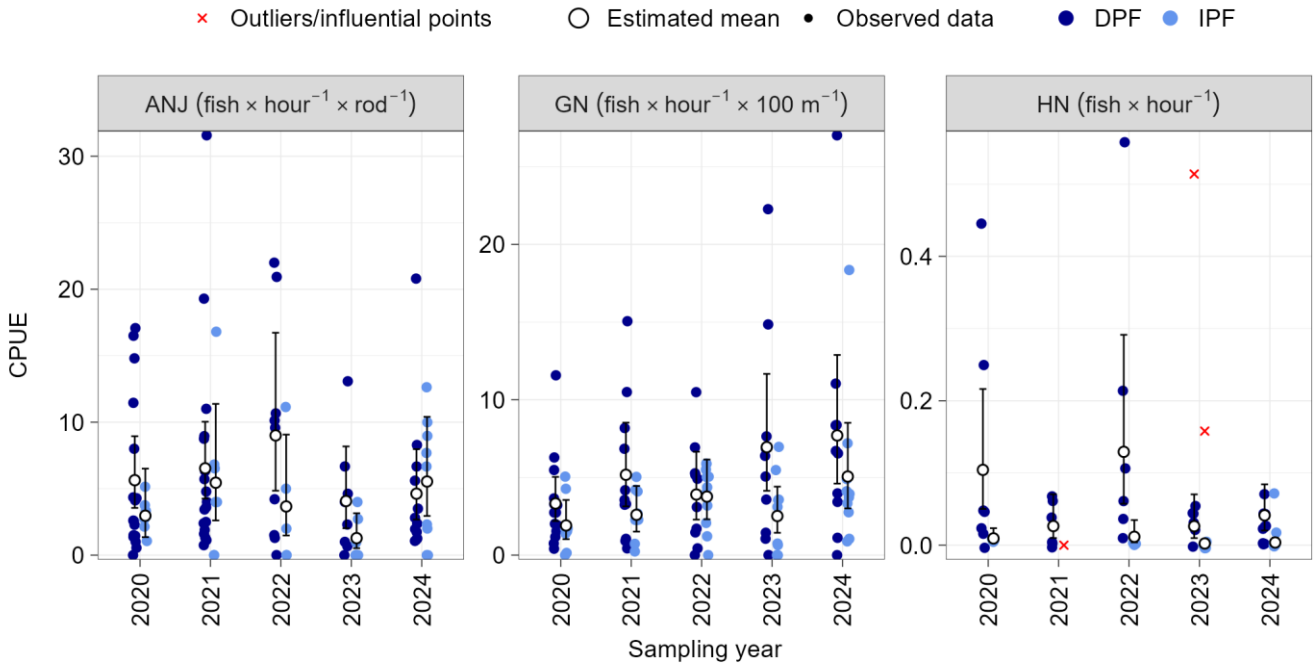


Figure 6-7: Observed (blue points) and modeled estimates (white points and black error bars) for Total CPUE (All Species) (2020-2024) for A) Angling-Jigging (ANJ) ; B) Gill Nets (GN); and C) Hoop Nets (HN). Error bars are 95% confidence intervals.

Note: One outlier was removed from the plot for gill nets due to high value for plot clarity.

Table 6-10: Statistical Significance (*P*-Values) from Analysis of Total Catch Per Unit Effort relative to Year and FA, for each Fishing Method (2020-2024)

Statistical Test	Angling – Jigging	Gill Net	Hoop Net
Area	**0.049**	**0.002**	**<0.001**
Year	0.105	**0.013**	**0.011**
Interaction	0.290	0.473	-

Note: Cells highlighted in blue and **bolded** indicate significance levels <0.05. '-' indicates not included in model. Trawling was excluded from this comparative analysis due to low effort numbers in all years. Full analysis results are presented in Appendix 6D – Table 8.

In 2024, trawling CPUE was highly variable between FAs. Mean CPUE in the DPF (3.1±5.8 fish·hr^{-1}) was lower than in the IPF (24.0±16.9 fish·hr^{-1}) and was lower in 2024 than any other sampling year (2021-2024; Table 6-9). Variability in trawling CPUE may be influenced by chosen specific sampling areas and continued efforts to prevent seabed contact, which may have affected taxa capture rates.

Statistical power to detect 20–40% reductions in CPUE in the DPF relative to the IPF in 2024 was low for analyses of all species combined where an interaction between year and FA was included (angling-jigging and gill nets; Appendix 6E). The power to detect a 20–40% reduction in CPUE in 2024 relative to 2023 was high for the analysis of hoop net data, which did not include an interaction in the model structure. The significant effect of year found for hoop nets (Table 6-11) was due to the large effect sizes observed in sampling years prior to 2023 (ranging from -80% to +297%), which were considerably larger than the effect sizes assessed in the power analysis.

Grouped Taxa Catch Per Unit Effort

Mean CPUE for angling-jigging in 2024 increased slightly in the DPF compared to 2023 for most taxonomic groups (Table 6-11; Figure 6-8). Fourhorn Sculpin (3.3 fish·hr^{-1}·rod^{-1}) followed by Shorthorn Sculpin (0.94 fish·hr^{-1}·rod^{-1}) continued to be the dominant fish taxa but mean CPUEs declined in the DPF compared to 2020-2022 averages (Table 6-11). For both taxa, CPUE in the IPF in 2024 increased compared to 2023 and 2020-2022 averages, with a more notable increase for Fourhorn Sculpin (2.6 fish·hr^{-1}·rod^{-1}; Table 6-11). Pacific Cod CPUEs were more variable between FAs in 2024 and while comparable to 2023 values, were overall lower than 2020-2022 averages (Table 6-11). Other taxonomic groupings captured by angling-jigging had minimal or no representation in 2024, reflecting trends from previous years (Table 6-11).

Differences in angling-jigging CPUE for Fourhorn Sculpin were analyzed statistically (Table 6-12). Differences in CPUE for other taxon groupings could not be analyzed due to the high frequency of zeroes in the data. Angling-jigging CPUE for Fourhorn Sculpin differed significantly between sampling areas (p=0.009), but not among years (p=0.543; Figure 6-9; Table 6-12; Appendix 6D – Table 8). An interaction between year and area could not be included due to the years of zero catch in the IPF (Figure 6-9). Mean CPUE in the DPF was estimated to be 418% higher than in the IPF, aligning with the continued observed efficiency of Fourhorn Sculpin capture in the DPF (Figure 6-9). Statistical power to detect a significant year effect following a 20–40% reduction in CPUE in 2024 relative to 2023 was low (Appendix 6E).

Table 6-11: Grouped Taxa Mean Catch Per Unit Effort by Fishing Method, FA and Year (2020-2024)

Method (CPUE Unit)	Year	Area	Arctic Char	Fourhorn Sculpin	Pacific Cod	Shorthorn Sculpin	Other sculpins	Other fishes
Angling – Jigging (fish·hr^{-1}·rod^{-1})	2020-2022 Average	DPF	0.12	5.80	1.14	1.23	0.52	0.00
		IPF	0.06	0.39	1.77	2.23	0.10	0.00
	2023	DPF	0.10	2.95	0.41	0.58	0.00	0.00
		IPF	0.00	0.71	0.12	0.13	0.00	0.00
	2024	DPF	0.00	3.29	0.54	0.94	0.00	0.00
		IPF	0.00	2.64	0.04	2.50	0.39	0.00
Gill Net (fish·hr^{-1}·100m^{-1})	2020-2022 Average	DPF	2.42	3.94	0.00	0.27	0.19	0.01
		IPF	4.30	2.08	0.01	0.37	0.06	0.00
	2023	DPF	1.23	5.66	0.00	0.03	0.00	0.00
		IPF	0.76	1.87	0.00	0.00	0.02	0.00
	2024	DPF	1.92	5.72	0.00	0.00	0.02	0.00
		IPF	2.33	2.35	0.03	0.31	0.00	0.00
Hoop Net (fish·hr^{-1})	2020-2022 Average	DPF	0.00	0.23	<0.01	0.01	0.01	0.00
		IPF	0.00	<0.01	<0.01	0.00	<0.01	0.00
	2023	DPF	0.00	0.10	0.00	<0.01	0.00	0.00
		IPF	0.00	0.02	0.00	0.00	0.00	0.00
	2024	DPF	<0.01	0.02	0.00	0.00	0.00	0.00
		IPF	0.00	0.01	0.00	0.00	0.01	0.00
Trawling (fish·hr^{-1})	2020-2022 Average	DPF	0.00	0.00	0.00	0.00	58.98	15.30
		IPF	0.00	0.00	0.00	0.00	25.42	68.02
	2023	DPF	0.00	0.00	0.00	0.00	14.81	1.25
		IPF	0.00	0.00	0.00	0.00	16.6	7.00
	2024	DPF	0.00	0.00	0.00	0.00	1.73	1.33
		IPF	0.00	0.00	0.00	0.00	20.00	4.00

Note: See footnote 3 for taxonomic groupings. See Appendix 6D - Table 9 for full 2020-2022 details.

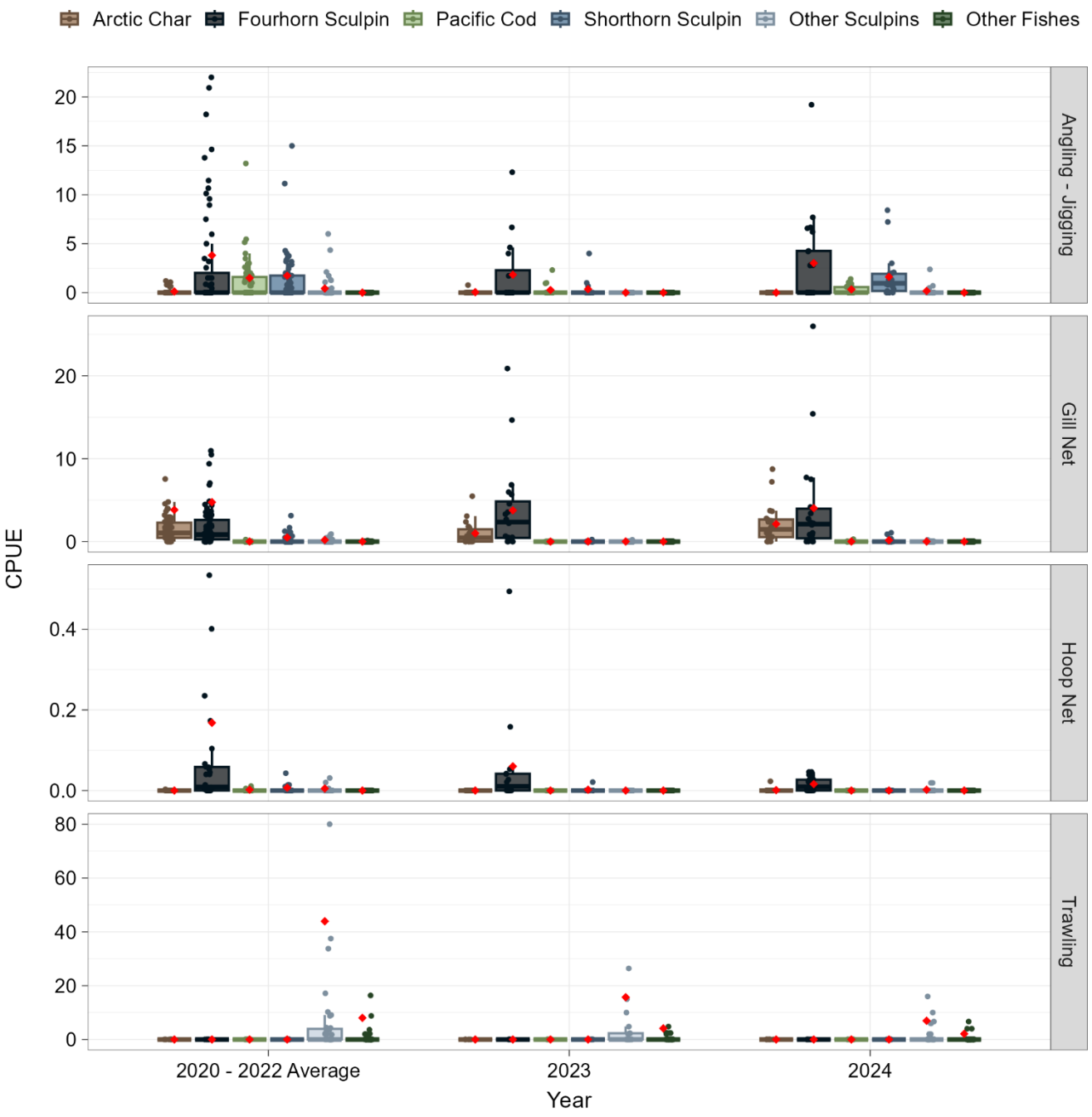


Figure 6-8: Grouped Taxa Mean Catch Per Unit Effort by Fishing Method (2020-2024)

Note: Red diamonds indicate mean values. See footnote 3 for taxonomic groupings. See Appendix 6D – Figure 7 for full 2020-2022 details. High outlier values were removed from jigging in 2021 DPF, gill net 2020 IPF, and trawling 2020 IPF for better visualization.

For gill nets, CPUE in 2024 remained highest for Fourhorn Sculpin, slightly increasing in both the DPF (5.7 fish·hr^{-1}·100m) and IPF (2.4 fish·hr^{-1}·100m^{-1}) compared to previous years (Table 6-11; Figure 6-8). Arctic Char CPUE also increased in both FAs (DPF = 1.9 fish·hr^{-1}·100m^{-1}, IPF = 2.3 fish·hr^{-1}·100m^{-1}) compared to 2023 but declined compared to 2020-2022 (Table 6-11). Shorthorn Sculpin and other taxonomic groupings captured via gill nets remained at low CPUE values in 2024 in both FAs, consistent with historical data (Table 6-11).

Differences in gill net CPUE for Fourhorn Sculpin and Arctic Char were analyzed statistically (Table 6-12); differences in CPUE for other taxon groupings could not be analyzed due to the high frequency of zeroes in the data. Fourhorn Sculpin gill net CPUE differed significantly between FAs (p<0.001) and among years (p=0.013; Table 6-12; Appendix 6D – Table 8). The interaction between area and year was not significant (p=0.8; Table 6-12; Appendix 6D – Table 8). Mean CPUE in the DPF was 139–464% higher than in the IPF between 2020 and 2024 (p≤0.024 for 2020, 2023, and 2024, and p>0.06 for 2021–2022; Figure 6-9). None of the multiple comparisons between years (within FA) were significant, with effect sizes ranging from -82% (2020 vs 2023 in the IPF; p=0.050) to +99% (2023 vs 2024 in the IPF; p=0.7). Values of CPUE collected in the DPF in 2024 were 31–96% higher than in 2020–2022 and 38% lower than those collected in 2023 (p>0.6 for all). In the IPF, 2024 CPUE values were 180% higher than in 2020 and 20–50% lower than in 2021–2023 (p>0.5 for all). Statistical power to detect a significant interaction between FA and year following a 20–40% reduction in DPF CPUE between 2023 and 2024 for Fourhorn Sculpin was low (Appendix 6E)

For Arctic Char, the interaction between year and FA was significant (p=0.005; Table 6-12), indicating differences in trends of CPUE between the two FAs over time. Pairwise comparisons between FAs by year indicated that CPUE was 415% higher in the DPF compared to the IPF in 2023 (p=0.041) but did not differ significantly in other years (p>0.07 for all). In the DPF, 2024 CPUE was 0.3–46% lower than 2020–2023 values (p>0.5 for all). However, in the IPF, 2024 CPUE was 61–919% higher than in 2020–2024 (p<0.001 for 2023, p>0.4 for all others; Figure 6-9). Statistical power to detect a significant interaction between area and year following a 20–40% reduction in DPF CPUE between 2023 and 2024 for Arctic Char was low (Appendix 6E). The significant interaction in the original model (Table 6-12) was due to the observed difference between DPF and IPF between 2023 and 2024 (Figure 6-9), where the effect sizes were considerably higher than those assessed in the power analysis.

Hoop net CPUE in 2024 was generally consistent with previous years for most taxonomic groupings (<0.1 fish·hr^{-1} in both FAs) but notably declined compared to previous years for Fourhorn Sculpin in the DPF (Table 6-11; Figure 6-8). Other species captured by hoop nets in 2024 were minimal or absent across both FAs (Table 6-11). Differences in hoop net CPUE for Fourhorn Sculpin were analyzed statistically (Table 6-12). Fourhorn Sculpin hoop net CPUE differed significantly between FAs (p<0.001) as well as among years (p=0.018; Figure 6-9; Table 6-12; Appendix 6D – Table 8). An interaction between year and FA could not be included due to the years of zero-only catch in the IPF (Figure 6-9). None of the multiple comparisons between years were significant (p>0.1 for all), despite effect sizes ranging from -80% (2021 vs 2022) and 361% (2022 vs 2023). In 2024, mean CPUE was 17–23% lower than 2021 and 2023 values, but 174% and 280% higher than 2020 and 2022 values, respectively. Mean CPUE in the DPF was estimated to be 2,082% higher than in the IPF (p<0.001; Figure 6-9); however, this result may be influenced by limited suitable locations for hoop net placement. Statistical power to detect a significant effect of year was high (Appendix 6E), due to the large interannual differences between 2020 and 2023.

Trawling efforts in 2024 continued to demonstrate variability in CPUE for less dominant taxa (‘other sculpins’ and ‘other fishes’) which were infrequently captured by other fishing methods (Table 6-11; Figure 6-8). In the DPF, CPUE for ‘other sculpins’ declined to 1.7 fish·hr^{-1} in 2024, while the IPF observed an increase for this group to 20.0 fish·hr^{-1} (Table 6-11). CPUE for ‘other fishes’ remained relatively low across both FAs in 2024, consistent with 2023 DPF values and a decrease in the IPF (Table 6-11). Historically, the highest CPUE values for IPF trawling occurred in 2020 (262.5 fish·hr^{-1}) for the 'other fishes' grouping (driven largely by a school of juvenile cod) and in 2021, for the 'other sculpins' grouping (94.6 fish·hr^{-1}; Appendix 6D – Table 7). CPUE values for these rare taxa demonstrated a notable overall decline across sampling years, particularly in the DPF. These findings suggest interannual variability in the abundance of fish taxa or potential changes in habitat usage but continue to demonstrate the unique contribution of trawling to capturing infrequently observed taxa (Table 6-12; Figure 6-8).

Overall, 2024 data suggest continued stability in the abundance of dominant species (e.g., Fourhorn Sculpin, Arctic Char, and Shorthorn Sculpin), with interannual variability influenced by sampling methods and habitat usage. Trends observed in 2024 highlight the importance of gill nets and angling-jigging for capturing key taxa.

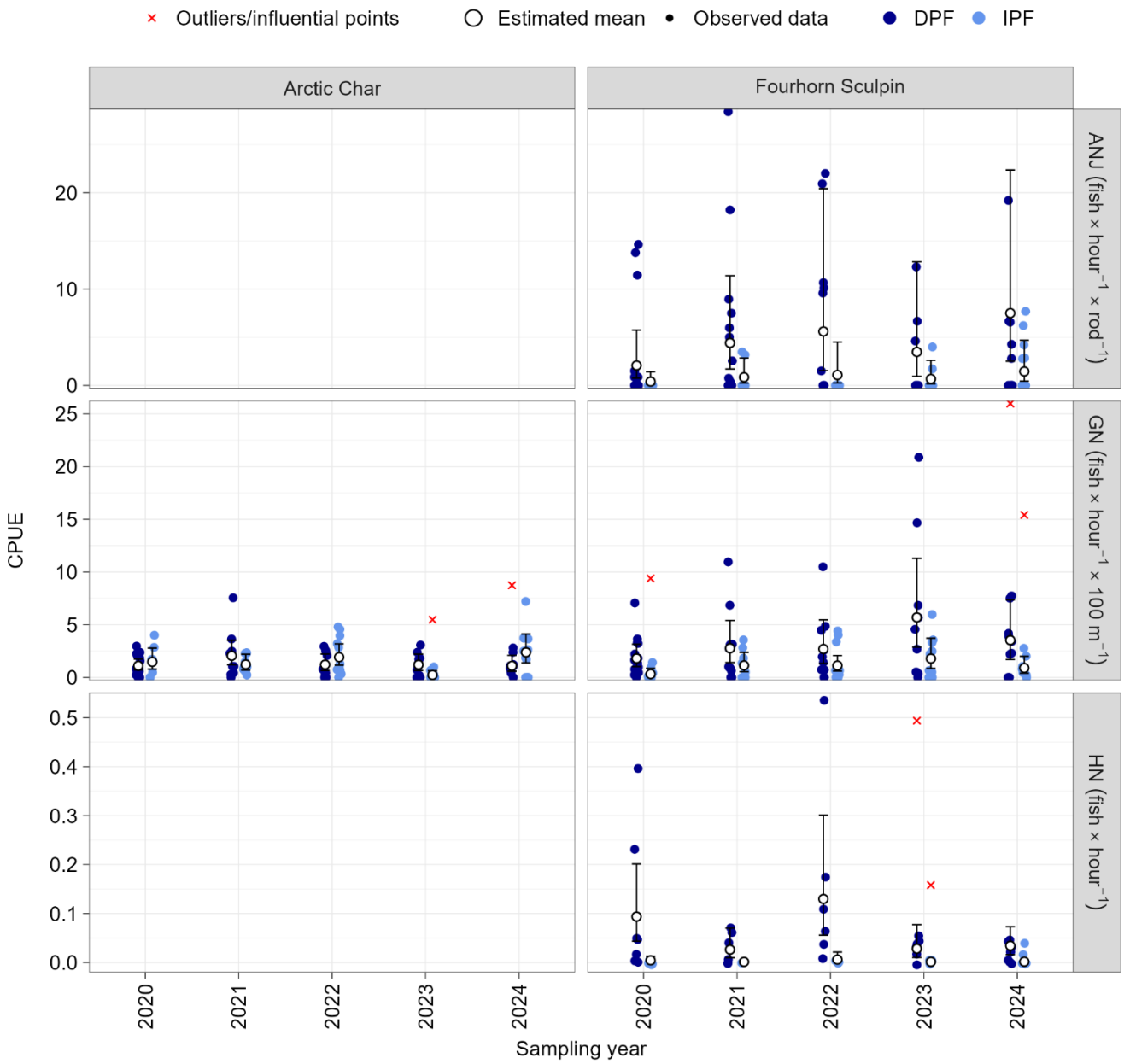


Figure 6-9: Observed (blue points) and modeled estimates (white points and black error bars) for Single Species CPUE (2020-2024) for Angling-Jigging (ANJ), Gill Nets (GN), and Hoop Nets (HN). Error bars are 95% confidence intervals.

Note: One outlier was removed from the plot for gill nets due to high value for plot clarity.

Table 6-12: Significance (*P*-values) of Statistical Analysis of Catch Per Unit Effort for Arctic Char and Fourhorn Sculpin by Fishing Method, FA and Year (2020-2024)

Taxon	Statistical Test	Angling – Jigging	Gill Net	Hoop Net
Arctic Char	FA	Not analyzed	0.945	Not analyzed
	Year		0.067	
	Interaction		**0.005**	
Fourhorn Sculpin	FA	**0.009**	**<0.001**	**<0.001**
	Year	0.543	**0.013**	**0.018**
	Interaction	No interaction included in model	0.792	No interaction included in model

Note: Cells highlighted in blue and **bolded** indicate significance levels <0.05. Trawling was excluded from this comparative analysis due to low effort numbers in all years. Full analysis results are presented in Appendix 6D – Table 3.

6.6 Discussion

In total, 633 individual fish, representing 10 known taxa, were recorded in the DPF and IPF from 66 fishing efforts using several gear types during the 2024 open water survey season in Milne Port. While catch increased to the second highest since 2020 (n = 854 fish), taxa richness in 2024 was generally comparable to the 2020–2023 period (10-12 known taxa). Fourhorn Sculpin, Arctic Char, and Shorthorn Sculpin continued to be the dominant taxa captured and no new records of fish taxa were reported in Milne Inlet in 2024 during fish community surveys with currently available information[5]. Angling-jigging and gill nets remained the most efficient methods to capture species of interest (e.g., Arctic Char, Fourhorn Sculpin) and trawling remained the most effective method for capturing taxa not captured by other methods. Hoop net CPUE remained low in both FAs, reflecting consistently low capture rates across years.

Statistical analyses of CPUE, evaluated separately for each fishing method, provided a more robust approach to assessing changes in catch rates compared to unadjusted catch numbers. These analyses indicated no reduction in the fish community attributable to activities at the Port. Analyses of total CPUE (all fish species combined) in 2024 showed higher CPUE in the DPF compared to the IPF for gill net and hoop net catches, consistent with trends observed in previous years. CPUE results for angling-jigging differed from previous years where catch in the IPF was higher than in the DPF but was more variable in 2024. This may be due to new sites fished in the IPF (e.g., north shore of Milne Port) or interannual variability at previously sampled sites. Overall, between 2020-2024, all methods analyzed indicated significantly higher catch in the DPF compared to the IPF.

Arctic Char CPUE interannual variability continued to be pronounced. There was a significant interaction effect between year and FA for Arctic Char captured via gill nets; similar CPUEs were observed in both areas between 2020 and 2022, but in 2023 the mean CPUE in the DPF was almost double that in the IPF. Additionally, catch rates for Arctic Char in gill nets in the IPF were lower in 2023 compared to 2020- 2022, but in 2024, Arctic Char CPUE in the IPF increased significantly from the 2023 value, which was the lowest in the time series. A minor, non-significant increase in Arctic Char CPUE within the DPF was also observed in 2024 compared to 2023. Despite the interannual variability, catch rates for Arctic Char have remained similar or higher in the DPF compared to the IPF throughout 2020-2024, suggesting that Project activities have not reduced the abundance of Arctic Char in Milne Port.

[5] Results from samples and fin clips sent for DNA analysis in 2024 have not yet been received at this time of this report.

Fourhorn Sculpin CPUE, analyzed for angling-jigging, gill nets, and hoop nets, continued to be higher in the DPF compared to the IPF for all methods. This disparity may relate to the preference of Fourhorn Sculpin for the constructed rocky reef habitats around the Ore and Freight Docks in the DPF. Overall, the results support the interpretation that existing mitigation measures are functioning as intended, and current Project activities are not resulting in adverse effects on the local marine fish communities in Milne Port. These findings underscore the effectiveness of adaptive sampling strategies and the importance of continuing to monitor CPUE trends across fishing methods and FAs to detect and address potential impacts.

Modifications to the monitoring program for the fish community over the past several years have prioritized improving the statistical power of the assessments. A key strategy has been the elimination of fishing methods that yielded relatively lower catches, allowing efforts to be concentrated on more effective methods. As a result, Fukui traps and trolling efforts were removed for the 2024 program, following evaluations from 2020–2023 that demonstrated their limited efficiency and low CPUE across all sampling areas. Efforts in 2024 were instead focused on angling-jigging, gill nets, hoop nets, and trawling, which have consistently proven to yield higher and more reliable catches (number and diversity) relative to comparable eliminated methods. Effort numbers of methods in 2024 were moderately higher than or equal to 2023 effort numbers, with the exception of trawling which nearly doubled the number of previous efforts.

6.7 Conclusions and Recommendations

This chapter addresses 2024 program objectives, including the characterization of species composition and relative abundance of fish at Milne Port. Overall, fishing methods were deemed effective in characterizing the composition and relative abundance of the marine fish community. Total catch and diversity of fish species in 2024, along with representation of the dominant fish species in Milne Port (Arctic Char, Fourhorn Sculpin and Shorthorn Sculpin), were generally comparable to 2020 to 2023 results. Results of statistical analyses of the CPUE (i.e., catch rates corrected for fishing effort) supported the conclusion that existing mitigation measures were functioning as intended and that current Project activities were not resulting in adverse effects on the local marine fish communities in Milne Port. No reduction in fish abundance was associated with activities in the DPF; fish CPUE in the DPF was generally higher or no different than the CPUE in the IPF. Monitoring data from 2024 aligned with FEIS predictions and subsequent addendums, which predicted the potential for minor and localized effects on fish and fish habitat.

Measures recommended for the 2025 MEEMP sampling program include the following:

- The sampling methods utilized in 2024 (angling-jigging, gill nets, hoop nets, and trawl) provide comparable results for detection of fish diversity as observed in previous years (when additional fishing methods were included in the program) and are recommended for use going forward.
- As power analyses continued to indicate the statistical power of the performed analyses was relatively low, due to the high variability of fish catch, consideration may be given to assessing differences between FAs using effect sizes rather than a strict adherence to statistical significance.

Overall, fishing methods were deemed effective in characterizing the marine fish community in terms of species presence and relative abundance. The program continues to improve its methodology with regard to efficiencies of capture, representation of the fish community, and statistical power, and the delineation of FAs and standardization of measures of fishing effort time series that commenced in 2020 will continue to allow for ongoing assessments of interannual and interarea change in relative fish abundance and distribution at Milne Port.

6.8 Closure

We trust this information is sufficient for your needs at this time. Should you have any questions or concerns, please do not hesitate to contact Phil Rouget, on behalf of the undersigned, at +1 250 419 4945.

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https://wsponlinecan.sharepoint.com/sites/ca-ca00263176821/shared documents/06. deliverables/issued to client_for wp/3.0_issued/ca0026317.6821-049-r-rev0/ca0026317.6821-049-r-rev0-86000-2024 meemp_6.0 fish community 09apr_25.docx

6.9 References

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APPENDIX 6A

Permits

Fisheries and Oceans Canada | Pêches et Océans Canada

Date: January 9th 2023

To: Phil Rouget, WSP Golder

Subject: Animal Use Protocol - Letter of Approval

Dear Phil,

Your 2022 Animal Use Protocol (AUP) "Baffinland Iron Mines Corp, Mary River Project, 2022 Marine Environmental Effects Monitoring Program (MEEMP) and Marine Habitat Offset Monitoring Program." received a multiyear approval last year by the Ontario, Prairie and Arctic Animal Care Committee (OPA-ACC) and has now been assigned number OPA-ACC-2023-05 for this year.

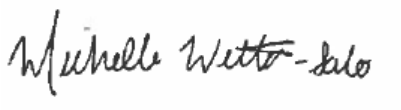
Keep this signed letter of approval as well as the signed AUP application form for your records. Please be advised that should there be a need to revise the protocol you are requested to contact the OPA-ACC and obtain approval prior to proceeding.

The Canadian Council on Animal Care requires post approval monitoring of AUPs. The OPA-ACC will be randomly choosing AUPs and asking for photographs or video that shows the handling or interaction of animals for these projects.

In addition, you are required to submit a brief report annually within 30 days of completion of the project outlining the unexpected changes to the protocol, the number of animals used and any unanticipated results. If injuries or mortalities occur, an incident report must be provided.

Feel free to contact me if you have any questions or concerns.

Sincerely,



Michelle Wetton-Salo

Chairperson of OPA-ACC

Ontario, Prairie and Arctic Animal Care Committee
Ontario and Prairie Region / région de l'Ontario et des Prairies
Fisheries and Oceans Canada / Pêches et Océans Canada
501 University Crescent
Winnipeg, Manitoba R3T 2N6
Phone:204-983-5238
DFO.OPAAnimalCareCommittee-ComitedeprotectiondesanimauxOPA.MPO@dfo-mpo.gc.ca



Nunavut Research Institute / ᓄᓇᕗᑦ ᖃᐅᔨᓴᖅᑐᓕᕆᓂᖅᓯᒪᔪᑦ
959A Nunavut Dr. Iqaluit, NU X0A 3H0 phone:(867) 979-7279 email:mosha.cote@arcticcollege.ca

SCIENTIFIC RESEARCH LICENSE

LICENSE NUMBER 02 027 24R-M

ISSUED TO: Megan-Lord Hoyle
Baffinland Iron Mines Corporation
2275 Upper Middle Road East, Suite 300
Oakville, Ontario
L6H 0C3 Canada

TEAM MEMBERS: Please see attached

TITLE: Mary River Project

OBJECTIVES OF RESEARCH:

The purpose of this program is to carry out the required monitoring and management of the project as stipulated in the terms and conditions of NIRB Project Certificate No. 005 and Type 'A' Water Licence 2AM-MRY1325. In addition, this monitoring data may be collected and used for future permitting of the Mary River project. All of the activities therein are in support of the Project which has been reviewed and approved by appropriate regulators as per the Nunavut Land Claim Agreement (NLCA).

TERMS & CONDITIONS:
The holder of the licence will be bound by the terms and conditions of the Nunavut Impact Review Board Screening Decision Report (05YN078) and the Department of Culture & Heritage archaeological sites terms and conditions. These terms and conditions will form part of this licence.

DATA COLLECTION IN NU:
DATES: April 18,2024 to December 31,2024
LOCATION: Steensby Port, Mary River, Milne Port/Road

Scientific Research License 02 027 24R-M expires on December 31,2024
Issued at Iqaluit, NU on April 18,2024

Jamal Shirley
Science Advisor

NUNAVUT SCIENTISTS ACT
SCIENTIFIC RESEARCH LICENCE

Licence #: S-24/25-1042-NU

Phil Rouget
Suite 301, 3600 Uptown Boulevard
Victoria, BC, CA V8Z 0B9

Dear Phil Rouget,

Enclosed is your amended Licence to Fish for Scientific Purposes issued pursuant to Section 52 of the Fishery (General) Regulations.

Failure to comply with any of the conditions specified on the attached licence may result in a contravention of the Fishery (General) Regulations.

Please be advised that this licence only permits those activities stated on your licence. Any other activity may require approval under the Fisheries Act or other legislation. It is the Project Authority's responsibility to obtain any other approvals.

Please ensure that you include the licence number and project title in any future correspondence and that you complete the Summary Harvest Report upon completion of activities under this licence.

Yours truly,

Colin Charles
Fisheries Management
Arctic Region
Fisheries and Oceans Canada

Date

Enclosure

LICENCE TO FISH FOR SCIENTIFIC PURPOSES

S-24/25-1042-NU

Pursuant to Section 52 of the Fishery (General) Regulations, the Minister of Fisheries and Oceans hereby authorizes the individual(s) listed below to fish for scientific purposes, subject to the conditions specified.

Project Authority: Phil Rouget — WSP Canada Ltd
Suite 301, 3600 Uptown Boulevard
Victoria, BC, CA V8Z 0B9

Other Personnel: Phil Rouget (Project Authority), Andrea Locke (Technical Advisor), Patricia Tomliens (Field Technical Lead), Ronnie Komangapik (Inuit Research Lead), Niallan O'Brien (Lead Diver), Marie-Claire Robitaille (Fish Community and Fish Health lead), Daniel Vicente, Paul Hinton, Frikkie VanDerVyer, Karac Lindsay, Marie Pierre Jean, Olivia Reeves, Bryce Gunning

Objectives: Baffinland Iron Mines Corp. - Mary River Project - 2024 Marine Environmental Effects Monitoring Program (MEEMP) and Marine Habitat Offset Monitoring Program, Baffin Island, Nunavut

The Project objectives are to conduct sampling to adhere to the terms and conditions of Baffinland to operate the existing Mary River Mine and Port Facility in Milne Inlet (North Baffin Island) through the implementation of the 2024 monitoring programs for the Marine Environment in accordance with the Project Certificate terms and Conditions issued for the Mary River Project. The 2024 programs for the Marine Environment include the following program components:
- 2024 Marine Environmental Effects Monitoring Program (MEEMP)
- 2024 Non-Indigenous and Aquatic Invasive Species (NIS/AIS) Monitoring Program
- 2024 Marine Fish Habitat Offset Monitoring Program (Freight Dock, Year 5).

CONDITIONS

Specified Conditions:

See Appendix A for map of authorized sampling locations

All weights are listed in kilograms (kg)

Waters:

Water Body: Milne Inlet
Point A: 72° 20' N, 80° 30' W

Species: Benthos — Gear: Ponar dredge, Van Veen Grab

Total Weight	Weight Live	Weight Dead	Number Alive	Number Dead	Number Tows	Number Sets	Hours	Minutes
	200.00	100.00						

Water Body: Milne Inlet
Point A: 72° 20' N, 80° 30' W

Species: Gastropods/Shellfish — Gear: Ponar dredge

Species: Gear: Van Veen Grab

Total Weight	Weight Live	Weight Dead	Number Alive	Number Dead	Number Tows	Number Sets	Hours	Minutes
			500	120				

Water Body: Milne Inlet
Point A: 72° 20' N, 80° 30' W

Species: Arctic Char (Searun)
Cod, Arctic
Sculpin, Fourhorn
Sculpin, Shorthorn

Gear: 10 MM Mesh Gillnets and Larger
Angling
Fish Trap
Fyke Nets
Longline
Seine
Trolling

Total Weight	Weight Live	Weight Dead	Number Alive	Number Dead	Number Tows	Number Sets	Hours	Minutes
			500	120				

Water Body: Milne Inlet
Point A: 72° 20' N, 80° 30' W

Species: Arctic Alligatorfish
Atlantic Poacher
Capelin
Cod, Arctic
Cod, Greenland
Cod, Polar
Eelpout, Polar
Eelpout, Saddled
Fish Doctor
Fourline Snakeblenny
Lumpfish (Lumpsucker)
Lumpsucker, Atlantic Spiny
Lumsucker, Spiny
Sand Lance
Sand Lance, Pacific
Sculpin, Arctic
Sculpin, Arctic Staghorn
Sculpin, Atlantic Hookear
Sculpin, Longhorn
Sculpin, Ribbed
Sculpin, Shorthorn
Sculpins Spp.
Snailfish
Snakeblenny, Slender
Stickleback, Ninespine

Gear: 10 MM Mesh Gillnets and Larger
Angling
Fish Trap
Fyke Nets
Jigging
Longline
Seine
Trolling

Total Weight	Weight Live	Weight Dead	Number Alive	Number Dead	Number Tows	Number Sets	Hours	Minutes
			500	100				

Fishing Period: July 22, 2024 to March 31, 2025

A copy of this licence must be available at the study site and produced at the request of a fishery officer.

Live fish may not be retained unless specified in the conditions of this licence.

The licence holder shall immediately cease fishing when the total fish killed or live sampled reaches any of the maximums set for any of the species listed.

Transportation:

Other approvals/permits may be necessary to collect or transport certain species, such as Marine Mammal Transportation Permits. For marine mammal parts, products and derivatives a Marine Mammal Transportation Licence is required for domestic transport and, for international transport a Canadian CITES Export Permit is also required.

Report on Activities:

The Project Authority will submit to the License Delivery Officer, Department of Fisheries and Oceans, within one month of the expiry date, a report stating:

i) whether or not the field work was conducted; and if conducted

ii) waterbody location, fishing coordinates, gear types used at each coordinate, numbers or amount of fish (by species) collected and/or marked and the date or period of collection.

A Summary Harvest Report template is provided by the License Delivery Officer at time of issuance of this licence .

The Project Authority also will provide a copy of any published or public access documents which result from the project . Information supplied will be used for population management purposes by the Department of Fisheries and Oceans and becomes part of the public record.

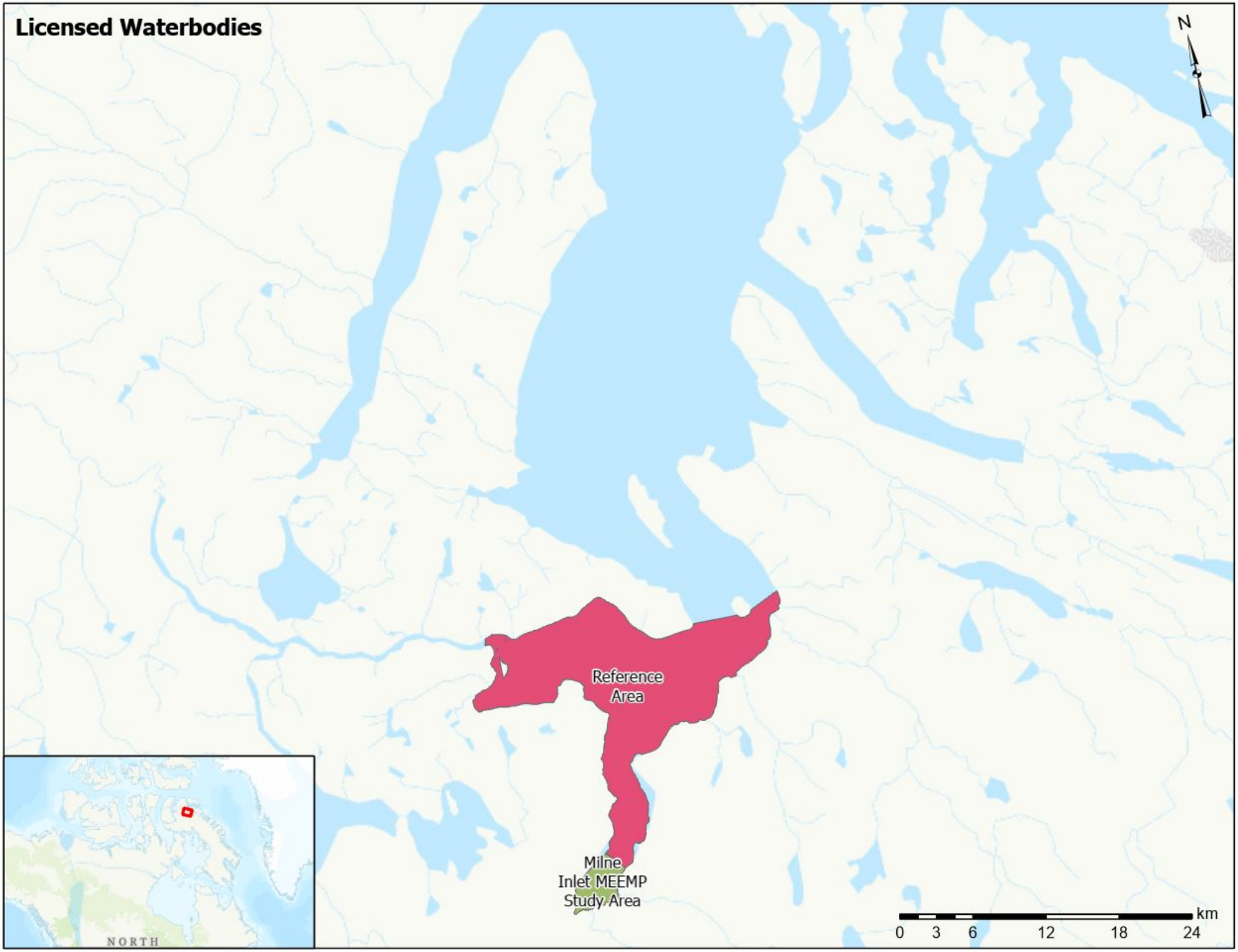
All documents should be sent to:
DFO.ArcticLicensing-PermisArctique.MPO@dfo-mpo.gc.ca

Jason Simms
A/ Regional Director, Fisheries Management
Arctic Region
Fisheries and Oceans Canada

Date

For the Minister of Fisheries and Oceans.

Pursuant to Section 52 of the Fishery (General) Regulations.


Licensed Waterbodies
N
Reference Area
Milne Inlet MEEMP Study Area
NORTH
km
0 3 6 12 18 24

APPENDIX 6B

2020 to 2024 Effort Data

Table 1. 2024 Fishing Effort Summary, Milne Inlet

Capture Method	Site	Area[1]	Set Date	Pull Date	Start UTM (NAD 83)	End UTM (NAD 83)	Total Hours
Angling - Jigging	ANJ01	REF - K	03-08-2024	2024-08-03	0508647 8000772	-	0.12
Angling - Jigging	ANJ02	REF - K	03-08-2024	2024-08-03	0509075 8000822	-	0.62
Angling - Jigging	ANJ03	REF - K	03-08-2024	2024-08-03	0508591 8000789		0.13
Angling - Jigging	ANJ04	REF - K	03-08-2024	2024-08-03	0509129 8000806	-	0.58
Angling - Jigging	ANJ05	REF - K	03-08-2024	2024-08-03	0508727 8000870	-	0.33
Angling - Jigging	ANJ06	DPF	04-08-2024	2024-08-04	0503224 7976589	-	1.17
Angling - Jigging	ANJ07	DPF	05-08-2024	2024-08-05	0503208 7976624	0503214 7976566	1.25
Angling - Jigging	ANJ08	DPF	06-08-2024	2024-08-06	0503134 7976516	0503036 7976474	0.42
Angling - Jigging	ANJ09	IPF	07-08-2024	2024-08-07	0505728 7978467	-	0.65
Angling - Jigging	ANJ10	IPF	07-08-2024	2024-08-07	0505259 7977482	-	0.45
Angling - Jigging	ANJ11	DPF	07-08-2024	2024-08-07	0503329 7976680	-	0.95
Angling - Jigging	ANJ12	IPF	08-08-2024	2024-08-08	0505105 7976955	-	0.43
Angling - Jigging	ANJ13	IPF	08-08-2024	2024-08-08	0505042 7976603	-	0.48
Angling - Jigging	ANJ14	DPF	08-08-2024	2024-08-08	0503993 7976675	-	0.67
Angling - Jigging	ANJ15	DPF	08-08-2024	2024-08-08	0503889 7976611	-	0.15
Angling - Jigging	ANJ16	REF-K	09-08-2024	2024-08-09	0507000 7999750	-	0.50
Angling - Jigging	ANJ17	REF-K	09-08-2024	2024-08-09	0508684 8000816	-	0.67
Angling - Jigging	ANJ18	REF-K	09-08-2024	2024-08-09	0509541 8000425	-	1.23
Angling - Jigging	ANJ19	REF-K	09-08-2024	2024-08-09	0509597 8000377	-	1.00
Angling - Jigging	ANJ20	REF-K	09-08-2024	2024-08-09	0508891 8000864	-	0.48
Angling - Jigging	ANJ20-2	DPF	10-08-2024	2024-08-10	0503220 7976602	-	0.72
Angling - Jigging	ANJ21	DPF	10-08-2024	2024-08-10	0503435 7976604	-	0.83
Angling - Jigging	ANJ22	DPF	10-08-2024	2024-08-10	0503344 7976684	-	0.43
Angling - Jigging	ANJ23	IPF	11-08-2024	2024-08-11	0505740 7978478	-	0.50
Angling - Jigging	ANJ24	IPF	11-08-2024	2024-08-11	0505263 7978024	-	0.32
Angling - Jigging	ANJ25	DPF	12-08-2024	2024-08-12	0503212 7976626	-	0.38
Angling - Jigging	ANJ26	DPF	12-08-2024	2024-08-12	0503349 7976648	-	0.40
Angling - Jigging	ANJ27	IPF	13-08-2024	2024-08-13	0505241 7977780	-	0.45
Angling - Jigging	ANJ28	IPF	13-08-2024	2024-08-13	0505265 7978052	0505162 7977671	0.38
Angling - Jigging	ANJ29	DPF	15-08-2024	2024-08-15	0503204 7976608	-	1.12
Angling - Jigging	ANJ30	REF-K	16-08-2024	2024-08-16	0509100 8000848	0509507 8000493	1.45
Angling - Jigging	ANJ31	REF-K	16-08-2024	2024-08-16	0509175 8000794	-	0.92
Angling - Jigging	ANJ32	REF-K	16-08-2024	2024-08-16	0509548 8000440	-	1.00
Angling - Jigging	ANJ33	IPF	18-08-2024	2024-08-18	0502556 7978656	-	0.70
Gill Net	GN01	REF - K	03-08-2024	2024-08-03	0508723 8000871	0508642 8000803	2.33
Gill Net	GN02	REF - K	03-08-2024	2024-08-03	0508612 8000821	0508580 8000737	1.00
Gill Net	GN03	REF - K	03-08-2024	2024-08-03	0508775 8000904	0508815 8000851	4.15
Gill Net	GN04	REF - K	03-08-2024	2024-08-03	0508826 8000883	0508876 8000856	4.38
Gill Net	GN05	REF - K	03-08-2024	2024-08-03	0508594 8000812	0508694 8000841	1.62
Gill Net	GN06	IPF	06-08-2024	2024-08-06	0504357 7976464	0504366 7976547	3.28
Gill Net	GN07	DPF	06-08-2024	2024-08-06	0503001 7976344	0502941 7976416	1.98
Gill Net	GN08	IPF	07-08-2024	2024-08-07	0505190 7977511	0505157 7977443	2.32
Gill Net	GN09	DPF	07-08-2024	2024-08-07	0503897 7976610	0503861 7976529	2.60
Gill Net	GN10	DPF	07-08-2024	2024-08-07	0503568 7976410	0503539 7976466	1.63
Gill Net	GN11	IPF	08-08-2024	2024-08-08	0504737 7976638	0504776 7976723	3.17
Gill Net	GN12	IPF	08-08-2024	2024-08-08	0504974 7976576	0504894 7976642	2.05
Gill Net	GN13	DPF	08-08-2024	2024-08-08	0503654 7976383	0503668 7976466	1.53
Gill Net	GN14	REF - K	09-08-2024	2024-08-09	0508597 8000806	0508660 8000814	4.92
Gill Net	GN15	REF - K	09-08-2024	2024-08-09	0508734 8000870	0508826 8000873	3.28
Gill Net	GN16	REF - K	09-08-2024	2024-08-09	0508905 8000878	0508991 8000863	3.20
Gill Net	GN17	REF - K	09-08-2024	2024-08-09	0509026 8000860	0509095 8000816	3.85
Gill Net	GN18	DPF	10-08-2024	2024-08-10	0503140 7976470	0503061 7976490	4.37
Gill Net	GN19	IPF	11-08-2024	2024-08-11	0505190 7977600	0505114 7977549	3.17
Gill Net	GN20	IPF	11-08-2024	2024-08-11	0505277 7977815	0505200 7977785	3.43
Gill Net	GN21	DPF	12-08-2024	2024-08-12	0502926 7976288	0502861 7976330	1.62
Gill Net	GN22	DPF	12-08-2024	2024-08-12	0502739 7976233	0502764 7976297	1.63
Gill Net	GN23	IPF	13-08-2024	2024-08-13	0501566 7976927	0505079 7976912	2.00
Gill Net	GN24	IPF	13-08-2024	2024-08-13	0505200 7977615	0505137 7977571	1.75
Gill Net	GN25	REF - K	16-08-2024	2024-08-16	0509037 8000876	0509119 8000841	2.92
Gill Net	GN26	IPF	17-08-2024	2024-08-17	0502546 7978684	0502547 7978596	2.78
Gill Net	GN27	IPF	17-08-2024	2024-08-17	0501954 7978271	0502017 7978188	4.17
Gill Net	GN28	DPF	18-08-2024	2024-08-18	0503017 7976394	0502937 7976406	4.25
Gill Net	GN29	DPF	18-08-2024	2024-08-18	0502922 7976294	0502852 7976326	3.73
Gill Net	GN30	DPF	18-08-2024	2024-08-18	0503413 7976472	0503485 7976531	3.22
Hoop Net	HN01	DPF	04-08-2024	2024-08-06	0503120 7976466	-	50.70
Hoop Net	HN02	DPF	04-08-2024	2024-08-06	0503131 7976471	-	50.63
Hoop Net	HN03	DPF	05-08-2024	2024-08-07	0503005 7976411	-	48.17
Hoop Net	HN04	IPF	06-08-2024	2024-08-10	0504553 7976629	-	94.72

Table 1. 2024 Fishing Effort Summary, Milne Inlet

Capture Method	Site	Area[1]	Set Date	Pull Date	Start UTM (NAD 83)	End UTM (NAD 83)	Total Hours
Hoop Net	HN05	IPF	06-08-2024	2024-08-10	0504549 7976602	-	94.65
Hoop Net	HN06	IPF	07-08-2024	2024-08-10	0504657 7976703	-	73.53
Hoop Net	HN07	DPF	10-08-2024	2024-08-12	0504032 7976604	-	49.32
Hoop Net	HN08	IPF	10-08-2024	2024-08-12	0504549 7976602	-	49.63
Hoop Net	HN09	IPF	10-08-2024	2024-08-12	0504548 7976631	-	49.82
Hoop Net	HN10	DPF	12-08-2024	2024-08-15	0504035 7976603	-	73.02
Hoop Net	HN11	DPF	12-08-2024	2024-08-15	0503923 7976555	-	72.95
Hoop Net	HN12	DPF	12-08-2024	2024-08-15	0503308 7976537	-	72.87
Hoop Net	HN13	DPF	15-08-2024	2024-08-17	0504134 7976560	-	43.50
Hoop Net	HN14	DPF	15-08-2024	2024-08-17	0503925 7976552	-	43.42
Hoop Net	HN15	DPF	15-08-2024	2024-08-17	0503346 7976587	-	43.35
Hoop Net	HN16	IPF	17-08-2024	2024-08-19	0502470 7978676	-	53.00
Hoop Net	HN17	IPF	17-08-2024	2024-08-19	0502038 7978345	-	52.90
Hoop Net	HN18	IPF	17-08-2024	2024-08-19	0501902 7977854	-	52.90
Trawl	TR01	DPF	11-08-2024	2024-08-11	0502431 7976635	0503167 7976722	0.50
Trawl	TR02	DPF	11-08-2024	2024-08-11	0503035 7976887	0503759 7977011	0.50
Trawl	TR03	DPF	13-08-2024	2024-08-13	0504653 7977080	0505229 7978190	0.50
Trawl	TR04	DPF	13-08-2024	2024-08-13	0501836 7977225	0501922 7977409	0.15
Trawl	TR05	IPF	13-08-2024	2024-08-13	0501775 7976889	0501787 7977096	0.17
Trawl	TR06	IPF	13-08-2024	2024-08-13	0501842 7977014	0502342 7977857	0.50
Trawl	TR07	DPF	19-08-2024	19-08-2024	0504536 7976982	0504950 7977613	0.50

[1] DPF = Direct Project Footprint; IPF = Indirect Project Footprint; REF-K = Chapter 7.0 fish health reference exploration in Koluktoo Bay

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
NFC	-	-	-	-	-	Angling - Trolling	AN01	DPF	17W	504151 7976631	504559 7976658	AN01S	AN01E	2020-07-29	12:54	2020-07-29	13:07	0.22	5	-
320	FHSC	170.0	45.0	U	-	Angling - Jigging	AN02	DPF	17W	503192 7976573	-	AN02	-	2020-07-31	9:41	2020-07-31	10:50	1.15	10	Released
321	FHSC	172.0	45.5	U	-	Angling - Jigging	AN02	DPF	17W	503192 7976573	-	AN02	-	2020-07-31	9:41	2020-07-31	10:50	1.15	10	Released
313	GRCD	456.0	1130.0	U	A	Angling - Jigging	AN02	DPF	17W	503192 7976573	-	AN02	-	2020-07-31	9:41	2020-07-31	10:50	1.15	10	Released
314	GRCD	468.0	1220.0	U	A	Angling - Jigging	AN02	DPF	17W	503192 7976573	-	AN02	-	2020-07-31	9:41	2020-07-31	10:50	1.15	10	Released
315	GRCD	455.0	1180.0	U	A	Angling - Jigging	AN02	DPF	17W	503192 7976573	-	AN02	-	2020-07-31	9:41	2020-07-31	10:50	1.15	10	Released
316	GRCD	440.0	1000.0	U	A	Angling - Jigging	AN02	DPF	17W	503192 7976573	-	AN02	-	2020-07-31	9:41	2020-07-31	10:50	1.15	10	Released
317	GRCD	478.0	1390.0	U	A	Angling - Jigging	AN02	DPF	17W	503192 7976573	-	AN02	-	2020-07-31	9:41	2020-07-31	10:50	1.15	10	Released
318	GRCD	398.0	670.0	U	A	Angling - Jigging	AN02	DPF	17W	503192 7976573	-	AN02	-	2020-07-31	9:41	2020-07-31	10:50	1.15	10	Released
319	GRCD	454.0	1180.0	U	A	Angling - Jigging	AN02	DPF	17W	503192 7976573	-	AN02	-	2020-07-31	9:41	2020-07-31	10:50	1.15	10	Released
322	GRCD	450.0	980.0	U	A	Angling - Jigging	AN02	DPF	17W	503192 7976573	-	AN02	-	2020-07-31	9:41	2020-07-31	10:50	1.15	10	Euthanized
329	ARCH	400.0	260.0	U	U	Angling - Jigging	AN03	DPF	17W	503207 7976619	-	AN03	-	2020-07-31	11:19	2020-07-31	12:10	0.85	15	Released
323	GRCD	621.0	2570.0	U	A	Angling - Jigging	AN03	DPF	17W	503207 7976619	-	AN03	-	2020-07-31	11:19	2020-07-31	12:10	0.85	15	Released
324	GRCD	434.0	940.0	M	A	Angling - Jigging	AN03	DPF	17W	503207 7976619	-	AN03	-	2020-07-31	11:19	2020-07-31	12:10	0.85	15	Released
327	GRCD	434.0	970.0	U	U	Angling - Jigging	AN03	DPF	17W	503207 7976619	-	AN03	-	2020-07-31	11:19	2020-07-31	12:10	0.85	15	Released
325	SHSC	412.0	930.0	U	A	Angling - Jigging	AN03	DPF	17W	503207 7976619	-	AN03	-	2020-07-31	11:19	2020-07-31	12:10	0.85	15	Released
326	SHSC	169.0	80.0	M	U	Angling - Jigging	AN03	DPF	17W	503207 7976619	-	AN03	-	2020-07-31	11:19	2020-07-31	12:10	0.85	15	Released
328	SHSC	241.0	150.0	U	U	Angling - Jigging	AN03	DPF	17W	503207 7976619	-	AN03	-	2020-07-31	11:19	2020-07-31	12:10	0.85	15	Released
330	GRCD	498.0	1320.0	-	-	Angling - Jigging	AN04	DPF	17W	503214 7976583	-	AN04	-	2020-07-31	12:30	2020-07-31	14:10	1.67	12	Released
331	GRCD	518.0	1790.0	-	-	Angling - Jigging	AN04	DPF	17W	503214 7976583	-	AN04	-	2020-07-31	12:30	2020-07-31	14:10	1.67	12	Released
332	GRCD	480.0	1230.0	-	-	Angling - Jigging	AN04	DPF	17W	503214 7976583	-	AN04	-	2020-07-31	12:30	2020-07-31	14:10	1.67	12	Released
333	GRCD	440.0	990.0	-	-	Angling - Jigging	AN04	DPF	17W	503214 7976583	-	AN04	-	2020-07-31	12:30	2020-07-31	14:10	1.67	12	Released
334	GRCD	534.0	1540.0	-	-	Angling - Jigging	AN04	DPF	17W	503214 7976583	-	AN04	-	2020-07-31	12:30	2020-07-31	14:10	1.67	12	Released
335	GRCD	518.0	1490.0	-	-	Angling - Jigging	AN04	DPF	17W	503214 7976583	-	AN04	-	2020-07-31	12:30	2020-07-31	14:10	1.67	12	Released
336	GRCD	408.0	690.0	-	-	Angling - Jigging	AN04	DPF	17W	503214 7976583	-	AN04	-	2020-07-31	12:30	2020-07-31	14:10	1.67	12	Released
337	GRCD	636.0	3060.0	-	-	Angling - Jigging	AN04	DPF	17W	503214 7976583	-	AN04	-	2020-07-31	12:30	2020-07-31	14:10	1.67	12	Released
338	GRCD	482.0	1410.0	-	-	Angling - Jigging	AN04	DPF	17W	503214 7976583	-	AN04	-	2020-07-31	12:30	2020-07-31	14:10	1.67	12	Euthanized
339	GRCD	564.0	1930.0	-	-	Angling - Jigging	AN04	DPF	17W	503214 7976583	-	AN04	-	2020-07-31	12:30	2020-07-31	14:10	1.67	12	Released
340	GRCD	442.0	1020.0	-	-	Angling - Jigging	AN04	DPF	17W	503214 7976583	-	AN04	-	2020-07-31	12:30	2020-07-31	14:10	1.67	12	Released
341	GRCD	504.0	1580.0	-	-	Angling - Jigging	AN04	DPF	17W	503214 7976583	-	AN04	-	2020-07-31	12:30	2020-07-31	14:10	1.67	12	Released
342	GRCD	569.0	2900.0	-	-	Angling - Jigging	AN04	DPF	17W	503214 7976583	-	AN04	-	2020-07-31	12:30	2020-07-31	14:10	1.67	12	Released
343	GRCD	670.0	3700.0	M	A	Angling - Jigging	AN05	DPF	17W	503209 7976585	-	AN05	-	2020-07-31	16:15	2020-07-31	17:10	0.92	15	Released
344	GRCD	446.0	1100.0	U	A	Angling - Jigging	AN05	DPF	17W	503209 7976585	-	AN05	-	2020-07-31	16:15	2020-07-31	17:10	0.92	15	Released
345	SHSC	366.0	680.0	U	A	Angling - Jigging	AN05	DPF	17W	503209 7976585	-	AN05	-	2020-07-31	16:15	2020-07-31	17:10	0.92	15	Released
346	SHSC	374.0	730.0	U	A	Angling - Jigging	AN05	DPF	17W	503209 7976585	-	AN05	-	2020-07-31	16:15	2020-07-31	17:10	0.92	15	Released
347	GRCD	484.0	1170.0	U	U	Angling - Jigging	AN06	DPF	17W	503220 7976562	-	AN06	-	2020-08-01	13:15	2020-08-01	13:45	0.50	-	Released
348	GRCD	520.0	1700.0	U	U	Angling - Jigging	AN06	DPF	17W	503220 7976562	-	AN06	-	2020-08-01	13:15	2020-08-01	13:45	0.50	-	Released
349	SHSC	185.0	93.2	U	U	Angling - Jigging	AN07	DPF	17W	503342 7976668	-	AN07	-	2020-08-01	13:53	2020-08-01	14:20	0.45	15	Released
350	SHSC	189.0	110.0	U	U	Angling - Jigging	AN08	IPF	17W	504872 7976647	-	AN08	-	2020-08-02	13:03	2020-08-02	13:14	0.20	5	Released
351	SHSC	377.0	700.0	U	A	Angling - Jigging	AN08	IPF	17W	504872 7976647	-	AN08	-	2020-08-02	13:03	2020-08-02	13:14	0.20	5	Released
352	SHSC	396.0	1020.0	U	A	Angling - Jigging	AN09	DPF	17W	503978 7976676	-	AN09	-	2020-08-02	14:14	2020-08-02	14:35	0.35	5	Released
353	SHSC	327.0	440.0	U	A	Angling - Jigging	AN09	DPF	17W	503978 7976676	-	AN09	-	2020-08-02	14:14	2020-08-02	14:35	0.35	5	Released
354	SHSC	232.0	180.0	U	U	Angling - Jigging	AN09	DPF	17W	503978 7976676	-	AN09	-	2020-08-02	14:14	2020-08-02	14:35	0.35	5	Released
355	SHSC	261.0	280.0	U	A	Angling - Jigging	AN09	DPF	17W	503978 7976676	-	AN09	-	2020-08-02	14:14	2020-08-02	14:35	0.35	5	Released
356	SHSC	186.0	80.0	U	U	Angling - Jigging	AN09	DPF	17W	503978 7976676	-	AN09	-	2020-08-02	14:14	2020-08-02	14:35	0.35	5	Released
357	SHSC	218.0	160.0	U	U	Angling - Jigging	AN09	DPF	17W	503978 7976676	-	AN09	-	2020-08-02	14:14	2020-08-02	14:35	0.35	5	Released
NFC	-	-	-	-	-	Angling - Trolling	AN10	IPF	17W	504606 7976681	505320 7977499	AN10	-	2020-08-02	14:47	2020-08-02	15:20	0.55	5	-
358	FHSC	144.0	24.0	U	U	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
359	FHSC	189.0	60.0	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
360	FHSC	194.0	64.2	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
361	FHSC	201.0	64.8	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
362	FHSC	195.0	70.4	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
364	FHSC	172.0	40.4	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
365	FHSC	167.0	38.1	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
366	FHSC	183.0	59.6	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
367	FHSC	175.0	56.6	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
368	FHSC	180.0	55.6	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
370	FHSC	184.0	54.4	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
371	FHSC	156.0	32.3	U	U	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
374	FHSC	170.0	39.3	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
376	FHSC	177.0	46.6	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
377	FHSC	148.0	29.8	U	U	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
378	FHSC	179.0	49.4	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
379	FHSC	215.0	109.3	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
380	FHSC	203.0	66.8	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
381	FHSC	203.0	82.6	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
382	FHSC	230.0	115.5	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
383	FHSC	209.0	98.6	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
384	FHSC	210.0	74.0	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
385	FHSC	242.0	110.0	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
386	FHSC	210.0	99.2	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
387	FHSC	221.0	114.3	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
388	FHSC	194.0	64.1	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
389	FHSC	220.0	116.7	F	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Euthanized
390	FHSC	215.0	81.8	M	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Euthanized
391	FHSC	205.0	75.4	M	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Euthanized
392	FHSC	197.0	85.0	M	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Euthanized
363	SHSC	159.0	38.3	U	U	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
369	SHSC	142.0	25.1	U	U	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
372	SHSC	164.0	44.7	U	A	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
373	SHSC	122.0	13.5	U	U	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
375	SHSC	140.0	21.3	U	U	Angling - Jigging	AN11	DPF	17W	503185 7976522	-	AN11	-	2020-08-02	15:49	2020-08-02	16:30	0.68	2	Released
469	ARSC	145.0	36.3	U	U	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
434	FHSC	173.0	48.3	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
435	FHSC	174.0	51.4	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
436	FHSC	176.0	54.9	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
437	FHSC	191.0	78.6	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
438	FHSC	172.0	44.3	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
439	FHSC	179.0	52.7	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
440	FHSC	163.0	43.0	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
441	FHSC	204.0	75.0	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
442	FHSC	130.0	19.0	U	J	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
443	FHSC	156.0	31.0	U	J	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
444	FHSC	160.0	38.7	U	U	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
445	FHSC	185.0	53.1	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
446	FHSC	157.0	30.0	U	U	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
447	FHSC	213.0	97.2	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
448	FHSC	228.0	113.9	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
449	FHSC	207.0	95.4	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
450	FHSC	170.0	38.7	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
451	FHSC	234.0	120.0	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
452	FHSC	160.0	34.4	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
453	FHSC	182.0	62.4	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
454	FHSC	167.0	45.3	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
455	FHSC	194.0	70.0	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
456	FHSC	169.0	40.3	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
457	FHSC	150.0	29.5	U	U	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
458	FHSC	175.0	48.8	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
459	FHSC	165.0	38.9	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
460	FHSC	163.0	43.1	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
461	FHSC	169.0	37.4	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
462	FHSC	163.0	38.6	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
463	FHSC	173.0	46.7	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
464	FHSC	164.0	37.2	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
465	FHSC	140.0	21.1	U	U	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
466	FHSC	175.0	47.6	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
467	FHSC	150.0	26.6	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
468	FHSC	157.0	37.7	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
470	FHSC	140.0	21.7	U	U	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
471	FHSC	159.0	35.2	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
472	FHSC	163.0	36.1	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
473	FHSC	136.0	17.7	U	U	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
474	FHSC	148.0	30.2	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
475	FHSC	127.0	19.0	U	U	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
476	FHSC	129.0	15.7	U	U	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
477	FHSC	134.0	18.9	U	U	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
478	FHSC	310.0	380.0	F	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Euthanized
479	FHSC	236.0	147.7	M	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Euthanized
480	FHSC	212.0	78.1	M	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Euthanized
481	FHSC	226.0	103.8	M	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Euthanized
482	FHSC	190.0	65.5	M	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Euthanized
483	FHSC	220.0	104.0	M	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Euthanized
484	FHSC	250.0	150.0	M	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Euthanized
485	FHSC	198.0	70.6	M	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Euthanized
486	FHSC	197.0	70.4	M	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Euthanized
487	FHSC	235.0	118.8	F	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Euthanized
488	FHSC	214.0	86.3	F	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Euthanized
489	FHSC	276.0	230.0	M	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Euthanized
490	FHSC	244.0	140.0	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
491	FHSC	263.0	200.0	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
492	FHSC	263.0	160.0	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
493	FHSC	200.0	68.4	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
494	FHSC	229.0	120.0	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
495	FHSC	191.0	60.0	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
496	FHSC	209.0	90.9	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
497	FHSC	204.0	74.8	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
498	FHSC	200.0	74.7	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
499	FHSC	196.0	72.1	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
500	FHSC	196.0	71.5	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
501	FHSC	184.0	54.3	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
502	FHSC	210.0	81.6	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
430	SHSC	190.0	71.1	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
431	SHSC	174.0	53.3	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
432	SHSC	219.0	102.5	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
433	SHSC	200.0	73.1	U	A	Angling - Jigging	AN12	DPF	17W	503213 7976562	-	AN12	-	2020-08-03	11:21	2020-08-03	12:35	1.23	-	Released
584	ARSC	178.0	60.0	-	-	Angling - Jigging	AN13	DPF	17W	503213 7976610	-	AN13	-	2020-08-05	11:13	2020-08-05	12:45	1.53	10	Released
585	GRCD	378.0	710.0	-	-	Angling - Jigging	AN13	DPF	17W	503213 7976610	-	AN13	-	2020-08-05	11:13	2020-08-05	12:45	1.53	10	Released
587	GRCD	436.0	830.0	U	A	Angling - Jigging	AN13	DPF	17W	503213 7976610	-	AN13	-	2020-08-05	11:13	2020-08-05	12:45	1.53	10	Released
588	GRCD	636.0	2980.0	U	A	Angling - Jigging	AN13	DPF	17W	503213 7976610	-	AN13	-	2020-08-05	11:13	2020-08-05	12:45	1.53	10	Released
589	GRCD	441.0	1100.0	U	A	Angling - Jigging	AN13	DPF	17W	503213 7976610	-	AN13	-	2020-08-05	11:13	2020-08-05	12:45	1.53	10	Released
590	GRCD	610.0	2470.0	U	A	Angling - Jigging	AN13	DPF	17W	503213 7976610	-	AN13	-	2020-08-05	11:13	2020-08-05	12:45	1.53	10	Released
586	SHSC	408.0	740.0	U	A	Angling - Jigging	AN13	DPF	17W	503213 7976610	-	AN13	-	2020-08-05	11:13	2020-08-05	12:45	1.53	10	Released
NFC	-	-	-	-	-	Angling - Jigging	AN14	DPF	17W	503214 7976572	502775 7976251	AN14A	AN14B	2020-08-05	10:44	2020-08-05	10:54	0.17	-	-
506	FHSC	201.0	73.4	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
507	FHSC	236.0	190.0	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
508	FHSC	243.0	130.0	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
509	FHSC	243.0	150.0	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
510	FHSC	272.0	180.0	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
511	FHSC	220.0	95.6	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
512	FHSC	213.0	97.2	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
513	FHSC	251.0	130.0	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
514	FHSC	203.0	72.0	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
515	FHSC	254.0	190.0	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
516	FHSC	232.0	95.8	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
517	FHSC	235.0	130.0	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
518	FHSC	241.0	130.0	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
519	FHSC	233.0	118.4	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
520	FHSC	208.0	83.3	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
521	FHSC	217.0	83.4	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
522	FHSC	231.0	130.0	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
523	FHSC	253.0	150.0	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
524	FHSC	205.0	82.7	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
525	FHSC	228.0	100.0	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
526	FHSC	200.0	71.9	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
527	FHSC	199.0	79.4	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
528	FHSC	197.0	68.5	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
529	FHSC	195.0	69.1	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
530	FHSC	208.0	78.0	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
531	FHSC	204.0	77.2	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
532	FHSC	192.0	64.4	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
533	FHSC	211.0	86.0	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
534	FHSC	207.0	80.4	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
535	FHSC	181.0	56.3	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
536	FHSC	209.0	86.7	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
537	FHSC	191.0	70.4	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
538	FHSC	179.0	48.7	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
539	FHSC	210.0	88.8	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
540	FHSC	219.0	96.3	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
541	FHSC	194.0	52.4	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
542	FHSC	175.0	51.8	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
543	FHSC	193.0	71.3	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
544	FHSC	242.0	120.0	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
545	FHSC	148.0	29.5	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
546	FHSC	189.0	65.0	M	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
547	FHSC	162.0	37.1	F	A	Angling - Jigging	AN15	DPF	17W	503391 7976593	-	AN15	-	2020-08-05	16:10	2020-08-05	17:05	0.92	2	Released
591	GRCD	598.0	2400.0	U	A	Angling - Jigging	AN16	IPF	17W	505726 7978486	-	AN16	-	2020-08-06	16:25	2020-08-06	17:00	0.58	15	Released
592	GRCD	414.0	830.0	U	U	Angling - Jigging	AN16	IPF	17W	505726 7978486	-	AN16	-	2020-08-06	16:25	2020-08-06	17:00	0.58	15	Released
593	GRCD	548.0	1880.0	U	A	Angling - Jigging	AN16	IPF	17W	505726 7978486	-	AN16	-	2020-08-06	16:25	2020-08-06	17:00	0.58	15	Released
594	GRCD	454.0	1000.0	U	U	Angling - Jigging	AN16	IPF	17W	505726 7978486	-	AN16	-	2020-08-06	16:25	2020-08-06	17:00	0.58	15	Released
595	GRCD	506.0	1610.0	U	A	Angling - Jigging	AN16	IPF	17W	505726 7978486	-	AN16	-	2020-08-06	16:25	2020-08-06	17:00	0.58	15	Released
596	GRCD	497.0	1310.0	U	U	Angling - Jigging	AN16	IPF	17W	505726 7978486	-	AN16	-	2020-08-06	16:25	2020-08-06	17:00	0.58	15	Released
597	GRCD	444.0	480.0	U	U	Angling - Jigging	AN16	IPF	17W	505726 7978486	-	AN16	-	2020-08-06	16:25	2020-08-06	17:00	0.58	15	Released
598	GRCD	446.0	1010.0	U	U	Angling - Jigging	AN16	IPF	17W	505726 7978486	-	AN16	-	2020-08-06	16:25	2020-08-06	17:00	0.58	15	Released
599	GRCD	520.0	1490.0	U	A	Angling - Jigging	AN16	IPF	17W	505726 7978486	-	AN16	-	2020-08-06	16:25	2020-08-06	17:00	0.58	15	Released
600	GRCD	474.0	1210.0	U	U	Angling - Jigging	AN17	IPF	17W	505710 7978466	-	AN17	-	2020-08-07	10:00	2020-08-07	10:34	0.57	15	Released
601	GRCD	490.0	1370.0	U	U	Angling - Jigging	AN17	IPF	17W	505710 7978466	-	AN17	-	2020-08-07	10:00	2020-08-07	10:34	0.57	15	Released
602	GRCD	494.0	1470.0	U	U	Angling - Jigging	AN17	IPF	17W	505710 7978466	-	AN17	-	2020-08-07	10:00	2020-08-07	10:34	0.57	15	Euthanized
603	GRCD	628.0	2980.0	U	A	Angling - Jigging	AN17	IPF	17W	505710 7978466	-	AN17	-	2020-08-07	10:00	2020-08-07	10:34	0.57	15	Released
604	GRCD	510.0	1420.0	U	A	Angling - Jigging	AN17	IPF	17W	505710 7978466	-	AN17	-	2020-08-07	10:00	2020-08-07	10:34	0.57	15	Released
605	GRCD	440.0	1120.0	U	A	Angling - Jigging	AN18	DPF	17W	503210 7976609	-	AN18	-	2020-08-08	10:50	2020-08-08	11:20	0.50	15	Released
606	GRCD	470.0	1140.0	U	U	Angling - Jigging	AN18	DPF	17W	503210 7976609	-	AN18	-	2020-08-08	10:50	2020-08-08	11:20	0.50	15	Released
607	GRCD	451.0	1040.0	U	U	Angling - Jigging	AN18	DPF	17W	503210 7976609	-	AN18	-	2020-08-08	10:50	2020-08-08	11:20	0.50	15	Released
608	GRCD	485.0	1330.0	U	U	Angling - Jigging	AN18	DPF	17W	503210 7976609	-	AN18	-	2020-08-08	10:50	2020-08-08	11:20	0.50	15	Released
609	SHSC	375.0	610.0	U	A	Angling - Jigging	AN18	DPF	17W	503210 7976609	-	AN18	-	2020-08-08	10:50	2020-08-08	11:20	0.50	15	Released
610	SHSC	421.0	1060.0	U	A	Angling - Jigging	AN18	DPF	17W	503210 7976609	-	AN18	-	2020-08-08	10:50	2020-08-08	11:20	0.50	15	Released
611	SHSC	286.0	260.0	U	A	Angling - Jigging	AN18	DPF	17W	503210 7976609	-	AN18	-	2020-08-08	10:50	2020-08-08	11:20	0.50	15	Released
612	SHSC	351.0	480.0	U	A	Angling - Jigging	AN18	DPF	17W	503210 7976609	-	AN18	-	2020-08-08	10:50	2020-08-08	11:20	0.50	15	Released
NFC	-	-	-	-	-	Angling - Trolling	AN19	DPF	17W	504197 7976632	504054 7976893	AN19S	AN19E	2020-08-08	14:23	2020-08-08	15:40	1.28	2	-
613	GRCD	513.0	1040.0	U	A	Angling - Jigging	AN20	IPF	17W	506244 7978922	-	AN20	-	2020-08-09	10:41	2020-08-09	12:05	1.40	20	Released
614	GRCD	517.0	1710.0	U	A	Angling - Jigging	AN20	IPF	17W	506244 7978922	-	AN20	-	2020-08-09	10:41	2020-08-09	12:05	1.40	20	Released
615	SHSC	270.0	330.0	U	A	Angling - Jigging	AN20	IPF	17W	506244 7978922	-	AN20	-	2020-08-09	10:41	2020-08-09	12:05	1.40	20	Released
616	SHSC	362.0	640.0	U	A	Angling - Jigging	AN21	IPF	17W	505263 797877	-	AN21	-	2020-08-09	12:44	2020-08-09	13:00	0.27	3	Released
617	SHSC	211.0	110.0	U	A	Angling - Jigging	AN21	IPF	17W	505263 797877	-	AN21	-	2020-08-09	12:44	2020-08-09	13:00	0.27	3	Released
618	SHSC	155.0	60.0	U	A	Angling - Trolling	AN22	IPF	17W	505316 7978102	505140 7977163	AN22S	AN22	2020-08-09	15:39	2020-08-09	16:20	0.68	3	Released
619	FHSC	192.0	68.9	F	A	Angling - Jigging	AN23	DPF	17W	504040 7976628	-	AN23	-	2020-08-09	16:50	2020-08-09	17:10	0.33	2	Released
NFC	-	-	-	-	-	Angling - Trolling	AN24	IPF	17W	504123 7976633	505138 7977193	AN24S	AN24E	2020-08-09	15:23	2020-08-09	15:44	0.35	2	-
NFC	-	-	-	-	-	Angling - Jigging	AN25	DPF	17W	503072 7976373	-	AN25	-	2020-08-11	10:27	2020-08-11	10:37	0.17	25	-
652	GRCD	475.0	1240.0	U	U	Angling - Jigging	AN26	DPF	17W	503207 7976594	-	AN26	-	2020-08-11	15:23	2020-08-11	15:45	0.37	15	Released
NFC	-	-	-	-	-	Angling - Trolling	AN27(a)	DPF	17W	504059 7976674	504545 7976652	AN27	-	2020-08-11	16:31	2020-08-11	16:45	0.23	3	-
710	ARCH	325.0	420.0	U	J	Angling - Jigging	AN27(b)	IPF	17W	505301 7978060	-	AN27	-	2020-08-14	9:32	2020-08-14	10:00	0.47	-	Released
711	SHSC	290.0	340.0	-	-	Angling - Jigging	AN27(b)	IPF	17W	505301 7978060	-	AN27	-	2020-08-14	9:32	2020-08-14	10:00	0.47	-	Released
720	FHSC	260.0	250.0	U	A	Angling - Jigging	AN28	DPF	17W	503955 7976671	-	AN28	-	2020-08-14	10:40	2020-08-14	11:00	0.33	4	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
712	SHSC	344.0	650.0	U	A	Angling - Jigging	AN28	DPF	17W	503955 7976671	-	AN28	-	2020-08-14	10:40	2020-08-14	11:00	0.33	4	Released
713	SHSC	373.0	760.0	U	A	Angling - Jigging	AN28	DPF	17W	503955 7976671	-	AN28	-	2020-08-14	10:40	2020-08-14	11:00	0.33	4	Released
714	SHSC	342.0	480.0	U	A	Angling - Jigging	AN28	DPF	17W	503955 7976671	-	AN28	-	2020-08-14	10:40	2020-08-14	11:00	0.33	4	Released
715	SHSC	289.0	290.0	U	A	Angling - Jigging	AN28	DPF	17W	503955 7976671	-	AN28	-	2020-08-14	10:40	2020-08-14	11:00	0.33	4	Released
716	SHSC	292.0	360.0	U	A	Angling - Jigging	AN28	DPF	17W	503955 7976671	-	AN28	-	2020-08-14	10:40	2020-08-14	11:00	0.33	4	Released
717	SHSC	250.0	180.0	U	A	Angling - Jigging	AN28	DPF	17W	503955 7976671	-	AN28	-	2020-08-14	10:40	2020-08-14	11:00	0.33	4	Released
718	SHSC	278.0	270.0	U	A	Angling - Jigging	AN28	DPF	17W	503955 7976671	-	AN28	-	2020-08-14	10:40	2020-08-14	11:00	0.33	4	Released
719	SHSC	217.0	100.0	U	A	Angling - Jigging	AN28	DPF	17W	503955 7976671	-	AN28	-	2020-08-14	10:40	2020-08-14	11:00	0.33	4	Released
721	SHSC	277.0	290.0	U	A	Angling - Jigging	AN28	DPF	17W	503955 7976671	-	AN28	-	2020-08-14	10:40	2020-08-14	11:00	0.33	4	Released
722	SHSC	232.0	170.0	U	A	Angling - Jigging	AN28	DPF	17W	503955 7976671	-	AN28	-	2020-08-14	10:40	2020-08-14	11:00	0.33	4	Released
723	SHSC	368.0	630.0	U	A	Angling - Jigging	AN29	IPF	17W	505036 7976854	-	AN29	-	2020-08-14	14:05	2020-08-14	14:38	0.55	30	Released
724	SHSC	234.0	210.0	U	A	Angling - Jigging	AN29	IPF	17W	505036 7976854	-	AN29	-	2020-08-14	14:05	2020-08-14	14:38	0.55	30	Released
725	SHSC	200.0	90.0	U	A	Angling - Jigging	AN29	IPF	17W	505036 7976854	-	AN29	-	2020-08-14	14:05	2020-08-14	14:38	0.55	30	Released
726	ARSC	130.0	32.8	-	-	Angling - Jigging	AN30	DPF	17W	503364 7976586	-	AN30	-	2020-08-15	9:45	2020-08-15	10:20	0.58	2	Released
727	ARSC	131.0	28.5	-	-	Angling - Jigging	AN30	DPF	17W	503364 7976586	-	AN30	-	2020-08-15	9:45	2020-08-15	10:20	0.58	2	Released
728	FHSC	151.0	31.1	F	-	Angling - Jigging	AN30	DPF	17W	503364 7976586	-	AN30	-	2020-08-15	9:45	2020-08-15	10:20	0.58	2	Released
301	SHSC	200.0	11.7	M	A	Fukui Trap	FT01	DPF	17W	502887 7976396	-	FT01	-	2020-07-27	15:31	2020-08-01	10:22	114.85	10	Released
NFC	-	-	-	-	-	Fukui Trap	FT02	DPF	17W	502706 7976270	-	176/177	-	2020-07-28	10:45	2020-08-01	9:55	95.17	8	-
308	FHSC	217.0	88.9	F	A	Fukui Trap	FT03	IPF	17W	502260 7976451	-	178/179	-	2020-07-28	11:44	2020-08-01	9:40	93.93	5	Euthanized
302	SHSC	124.0	22.3	U	J	Fukui Trap	FT03	IPF	17W	502260 7976451	-	178/179	-	2020-07-28	11:44	2020-08-01	9:40	93.93	5	Released
303	UNSC	75.0	4.4	U	J	Fukui Trap	FT03	IPF	17W	502260 7976451	-	178/179	-	2020-07-28	11:44	2020-08-01	9:40	93.93	5	Released
304	UNSC	61.0	2.7	U	J	Fukui Trap	FT03	IPF	17W	502260 7976451	-	178/179	-	2020-07-28	11:44	2020-08-01	9:40	93.93	5	Released
305	UNSC	72.0	4.3	U	J	Fukui Trap	FT03	IPF	17W	502260 7976451	-	178/179	-	2020-07-28	11:44	2020-08-01	9:40	93.93	5	Released
306	UNSC	68.0	4.2	U	J	Fukui Trap	FT03	IPF	17W	502260 7976451	-	178/179	-	2020-07-28	11:44	2020-08-01	9:40	93.93	5	Released
307	UNSC	60.0	2.8	U	J	Fukui Trap	FT03	IPF	17W	502260 7976451	-	178/179	-	2020-07-28	11:44	2020-08-01	9:40	93.93	5	Released
309	UNSC	65.0	4.1	U	J	Fukui Trap	FT04	IPF	17W	501484 7976207	-	180/181	-	2020-07-28	12:01	2020-08-01	10:15	94.23	10	Released
NFC	-	-	-	-	-	Fukui Trap	FT05	DPF	17W	502734 7976422	-	FT05	-	2020-07-28	12:07	2020-08-01	9:50	93.72	20	-
NFC	-	-	-	-	-	Fukui Trap	FT06	DPF	17W	502995 7976409	-	FT06	-	2020-07-28	12:10	2020-08-01	10:00	93.83	20	-
565	FHSC	166.0	47.2	U	U	Fukui Trap	FT07	DPF	17w	503177 7976521	-	FT07	-	2020-08-01	10:08	2020-08-05	9:05	94.95	2	Released
566	FHSC	168.0	39.9	U	U	Fukui Trap	FT07	DPF	17w	503177 7976521	-	FT07	-	2020-08-01	10:08	2020-08-05	9:05	94.95	2	Released
567	UNSC	141.0	21.2	U	J	Fukui Trap	FT07	DPF	17w	503177 7976521	-	FT07	-	2020-08-01	10:08	2020-08-05	9:05	94.95	2	Released
568	UNSC	123.0	12.7	U	J	Fukui Trap	FT07	DPF	17w	503177 7976521	-	FT07	-	2020-08-01	10:08	2020-08-05	9:05	94.95	2	Released
564	ARSC	127.0	26.6	U	U	Fukui Trap	FT08	DPF	17W	503195 7976534	-	FT08	-	2020-08-01	9:11	2020-08-05	9:10	95.98	2	Released
563	FHSC	220.0	92.2	M	A	Fukui Trap	FT08	DPF	17W	503195 7976534	-	FT08	-	2020-08-01	9:11	2020-08-05	9:10	95.98	2	Euthanized
559	FHSC	224.0	118.8	F	A	Fukui Trap	FT09	DPF	17W	503212 7976554	-	FT09	-	2020-08-01	10:14	2020-08-05	9:15	95.02	2	Released
560	FHSC	223.0	108.1	F	A	Fukui Trap	FT09	DPF	17W	503212 7976554	-	FT09	-	2020-08-01	10:14	2020-08-05	9:15	95.02	2	Released
561	FHSC	196.0	66.4	F	A	Fukui Trap	FT09	DPF	17W	503212 7976554	-	FT09	-	2020-08-01	10:14	2020-08-05	9:15	95.02	2	Released
562	UNSC	149.0	29.2	U	J	Fukui Trap	FT09	DPF	17W	503212 7976554	-	FT09	-	2020-08-01	10:14	2020-08-05	9:15	95.02	2	Released
762	ARSC	112.0	20.6	U	U	Fukui Trap	FT10	DPF	17W	503394 7976642	-	FT10	-	2020-08-01	10:31	2020-08-02	8:42	22.18	3	Released
763	FHSC	202.0	66.4	F	A	Fukui Trap	FT10	DPF	17W	503394 7976642	-	FT10	-	2020-08-01	10:31	2020-08-02	8:42	22.18	3	Euthanized
551	ARSC	119.0	20.7	U	U	Fukui Trap	FT11	DPF	17W	503494 7976629	-	FT11	-	2020-08-01	10:30	2020-08-05	9:30	95.00	3	Released
552	FHSC	214.0	84.5	F	A	Fukui Trap	FT11	DPF	17W	503494 7976629	-	FT11	-	2020-08-01	10:30	2020-08-05	9:30	95.00	3	Released
554	FHSC	196.0	67.6	F	A	Fukui Trap	FT11	DPF	17W	503494 7976629	-	FT11	-	2020-08-01	10:30	2020-08-05	9:30	95.00	3	Released
555	FHSC	195.0	68.2	F	A	Fukui Trap	FT11	DPF	17W	503494 7976629	-	FT11	-	2020-08-01	10:30	2020-08-05	9:30	95.00	3	Released
557	FHSC	186.0	54.2	F	A	Fukui Trap	FT11	DPF	17W	503494 7976629	-	FT11	-	2020-08-01	10:30	2020-08-05	9:30	95.00	3	Released
550	NRSL	170.0	16.2	U	U	Fukui Trap	FT11	DPF	17W	503494 7976629	-	FT11	-	2020-08-01	10:30	2020-08-05	9:30	95.00	3	Released
553	UNSC	130.0	18.7	U	J	Fukui Trap	FT11	DPF	17W	503494 7976629	-	FT11	-	2020-08-01	10:30	2020-08-05	9:30	95.00	3	Released
556	UNSC	140.0	21.8	U	J	Fukui Trap	FT11	DPF	17W	503494 7976629	-	FT11	-	2020-08-01	10:30	2020-08-05	9:30	95.00	3	Released
558	UNSC	134.0	19.3	U	J	Fukui Trap	FT11	DPF	17W	503494 7976629	-	FT11	-	2020-08-01	10:30	2020-08-05	9:30	95.00	3	Released
549	ARSC	200.0	117.8	U	A	Fukui Trap	FT12	DPF	17W	503464 7976592	-	FT12	-	2020-08-01	10:34	2020-08-05	9:35	95.02	3	Released
548	FHSC	177.0	47.5	M	A	Fukui Trap	FT12	DPF	17W	503464 7976592	-	FT12	-	2020-08-01	10:34	2020-08-05	9:35	95.02	3	Released
657	FHSC	235.0	111.9	F	A	Fukui Trap	FT13	DPF	17W	503922 7976599	-	FT13	-	2020-08-05	9:23	2020-08-11	10:55	121.53	5	Released
656	NRSL	168.0	16.8	U	A	Fukui Trap	FT13	DPF	17W	503922 7976599	-	FT13	-	2020-08-05	9:23	2020-08-11	10:55	121.53	5	Released
654	ARSC	132.0	30.9	U	U	Fukui Trap	FT14	DPF	17W	503889 7976626	-	FT14	-	2020-08-05	9:25	2020-08-11	11:05	145.67	5	Released
655	ARSC	90.0	8.8	U	U	Fukui Trap	FT14	DPF	17W	503889 7976626	-	FT14	-	2020-08-05	9:25	2020-08-11	11:05	145.67	5	Released
653	SHSC	181.0	40.0	U	U	Fukui Trap	FT14	DPF	17W	503889 7976626	-	FT14	-	2020-08-05	9:25	2020-08-11	11:05	145.67	5	Released
658	FHSC	194.0	20.0	U	U	Fukui Trap	FT15	DPF	17W	503900 7976672	-	FT15	-	2020-08-05	9:26	2020-08-11	11:15	145.82	5	Released
NFC	-	-	-	-	-	Fukui Trap	FT16	DPF	17W	504049 7976642	-	FT16	-	2020-08-05	9:56	2020-08-11	11:25	145.48	5	-
NFC	-	-	-	-	-	Fukui Trap	FT17	DPF	17W	504005 7976663	-	FT17	-	2020-08-05	9:58	2020-08-11	11:30	145.53	5	-
751	FLSB	280.0	-	U	U	Fukui Trap	FT18	DPF	17W	503903 7976750	-	FT18	-	2020-08-11	11:00	2020-08-15	15:55	100.92	20	Released
NFC	-	-	-	-	-	Fukui Trap	FT19	DPF	17W	503960 7976771	-	FT19	-	2020-08-11	11:07	2020-08-15	16:05	100.97	20	-
753	ARSC	138.0	37.2	U	U	Fukui Trap	FT20	DPF	17W	504140 7976580	-	FT20	-	2020-08-11	11:14	2020-08-15	16:15	101.02	5	Released
752	FHSC	189.0	55.6	M	A	Fukui Trap	FT20	DPF	17W	504140 7976580	-	FT20	-	2020-08-11	11:14	2020-08-15	16:15	101.02	5	Released
754	FHSC	150.0	29.6	-	-	Fukui Trap	FT20	DPF	17W	504140 7976580	-	FT20	-	2020-08-11	11:14	2020-08-15	16:15	101.02	5	Released
NFC	-	-	-	-	-	Fukui Trap	FT21	DPF	17W	504304 7976730	-	FT21	-	2020-08-11	11:21	2020-08-15	16:25	101.07	20	-
NFC	-	-	-	-	-	Fukui Trap	FT22	IPF	17W	504609 7976678	-	FT22	-	2020-08-11	11:44	2020-08-15	16:30	100.77	2	-
NFC	-	-	-	-	-	Fukui Trap	FT23	DPF	17W	503980 7976881	-	FT23	-	2020-08-15	16:00	2020-08-20	8:00	112.00	50	-
NFC	-	-	-	-	-	Fukui Trap	FT24	DPF	17W	504179 7976704	-	FT24	-	2020-08-15	16:07	2020-08-20	8:10	112.05	20	-
NFC	-	-	-	-	-	Fukui Trap	FT25	DPF	17W	503824 7976635	-	FT25	-	2020-08-15	16:13	2020-08-20	13:35	117.37	2	-
761	FHSC	159.0	37.8	U	U	Fukui Trap	FT26	DPF	17W	503706 7976518	-	FT26	-	2020-08-15	16:30	2020-08-20	13:30	117.00	2	Released
NFC	-	-	-	-	-	Fukui Trap	FT27	DPF	17W	503535 7976530	-	FT27	-	2020-08-15	16:35	2020-08-20	13:25	116.83	2	-
128	ARCH	505.0	1020.0	U	A	Gill Net	GN01	DPF	17W	502979 7976335	502938 7976419	GN01A	GN01B	2020-07-27	15:45	2020-07-27	17:45	2.00	5	Mortality
129	ARCH	599.0	1960.0	M	A	Gill Net	GN01	DPF	17W	502979 7976335	502938 7976419	GN01A	GN01B	2020-07-27	15:45	2020-07-27	17:45	2.00	5	Mortality
130	ARCH	441.0	910.0	U	A	Gill Net	GN01	DPF	17W	502979 7976335	502938 7976419	GN01A	GN01B	2020-07-27	15:45	2020-07-27	17:45	2.00	5	Mortality
131	ARCH	272.0	120.0	U	U	Gill Net	GN01	DPF	17W	502979 7976335	502938 7976419	GN01A	GN01B	2020-07-27	15:45	2020-07-27	17:45	2.00	5	Mortality
132	FHSC	216.0	91.2	U	A	Gill Net	GN01	DPF	17W	502979 7976335	502938 7976419	GN01A	GN01B	2020-07-27	15:45	2020-07-27	17:45	2.00	5	Mortality
133	FHSC	198.0	61.2	U	A	Gill Net	GN01	DPF	17W	502979 7976335	502938 7976419	GN01A	GN01B	2020-07-27	15:45	2020-07-27	17:45	2.00	5	Mortality
134	FHSC	209.0	71.8	U	A	Gill Net	GN01	DPF	17W	502979 7976335	502938 7976419	GN01A	GN01B	2020-07-27	15:45	2020-07-27	17:45	2.00	5	Mortality
135	FHSC	164.0	36.2	U	U	Gill Net	GN01	DPF	17W	502979 7976335	502938 7976419	GN01A	GN01B	2020-07-27	15:45	2020-07-27	17:45	2.00	5	Mortality
136	ARCH	602.0	2320.0	F	A	Gill Net	GN02	DPF	17W	502717 7976229	502740 7976321	GN02A	GN02B	2020-07-27	15:59	2020-07-27	17:59	2.00	-	Mortality
137	ARCH	512.0	1320.0	F	A	Gill Net	GN02	DPF	17W	502717 7976229	502740 7976321	GN02A	GN02B	2020-07-27	15:59	2020-07-27	17:59	2.00	-	Mortality
139	FHSC	173.0	41.0	U	U	Gill Net	GN02	DPF	17W	502717 7976229	502740 7976321	GN02A	GN02B	2020-07-27	15:59	2020-07-27	17:59	2.00	-	Released
140	FHSC	174.0	45.7	U	A	Gill Net	GN02	DPF	17W	502717 7976229	502740 7976321	GN02A	GN02B	2020-07-27	15:59	2020-07-27	17:59	2.00	-	Released
141	FHSC	227.0	114.0	U	A	Gill Net	GN02	DPF	17W	502717 7976229	502740 7976321	GN02A	GN02B	2020-07-27	15:59	2020-07-27	17:59	2.00	-	Released
138	UNSC	120.0	16.4	U	U	Gill Net	GN02	DPF	17W	502717 7976229	502740 7976321	GN02A	GN02B	2020-07-27	15:59	2020-07-27	17:59	2.00	-	Released
NFC	-	-	-	-	-	Gill Net	GN03	IPF	17W	501830 7976071	501894 7976184	GN03A	GN03B	2020-07-28	10:23	2020-07-28	13:30	3.12	-	-
142	SHSC	188.0	52.1	U	U	Gill Net	GN04	DPF	17W	502787 7976222	502809 7976340	GN04A	GN04B	2020-07-28	11:06	2020-07-28	17:40	6.57	-	Released
143	UNSC	135.0	19.5	U	J	Gill Net	GN04	DPF	17W	502787 7976222	502809 7976340	GN04A	GN04B	2020-07-28	11:06	2020-07-28	17:40	6.57	-	Released
144	UNSC	131.0	18.6	U	J	Gill Net	GN04	DPF	17W	502787 7976222	502809 7976340	GN04A	GN04B	2020-07-28	11:06	2020-07-28	17:40	6.57	-	Released
145	FHSC	247.0	150.0	U	U	Gill Net	GN05	IPF	17W	502495 7976268	502565 7976342	GN05A	GN05B	2020-07-28	11:17	2020-07-28	17:55	6.63	-	Released
146	ARCH	640.0	2980.0	U	A	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
147	ARCH	395.0	610.0	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
148	ARCH	348.0	480.0	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Euthanized
154	ARCH	558.0	1980.0	F	A	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Euthanized
155	ARCH	491.0	1300.0	U	A	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
156	ARCH	139.0	24.9	U	J	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Mortality
157	ARCH	134.0	21.9	U	J	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
158	ARCH	142.0	30.1	U	J	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Mortality
149	FHSC	261.0	240.0	U	A	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
150	FHSC	192.0	66.6	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
151	FHSC	201.0	67.7	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
160	FHSC	294.0	310.0	U	A	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
161	FHSC	243.0	110.0	U	A	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
162	FHSC	211.0	79.2	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
163	FHSC	230.0	110.0	U	A	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
164	FHSC	215.0	86.9	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
165	FHSC	214.0	93.7	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
166	FHSC	238.0	112.7	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
167	FHSC	193.0	71.8	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
168	FHSC	194.0	67.0	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
169	FHSC	199.0	82.6	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
171	FHSC	185.0	65.2	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
172	FHSC	191.0	73.7	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
173	FHSC	180.0	53.2	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
175	FHSC	189.0	65.8	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
176	FHSC	184.0	59.6	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
177	FHSC	166.0	43.5	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
178	FHSC	196.0	57.1	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
180	FHSC	175.0	46.4	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
181	FHSC	149.0	25.7	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
182	FHSC	157.0	35.6	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
183	FHSC	166.0	39.9	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
186	FHSC	187.0	56.5	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
153	SHSC	152.0	27.7	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
174	SHSC	188.0	62.9	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
179	SHSC	153.0	29.5	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
185	SHSC	130.0	19.2	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
159	STSC	168.0	90.7	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
152	UNSC	150.0	28.7	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
170	UNSC	153.0	28.1	U	J	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
184	UNSC	128.0	18.2	U	U	Gill Net	GN06	DPF	17W	502999 7976400	502971 7976482	GN06A	GN06B	2020-07-28	14:01	2020-07-28	17:15	3.23	-	Released
187	ARCH	652.0	3400.0	M	A	Gill Net	GN07	DPF	17W	503889 7976639	503833 7976711	GN07A	GN07B	2020-07-29	9:46	2020-07-29	14:30	4.73	-	Released
188	ARCH	542.0	1650.0	U	A	Gill Net	GN07	DPF	17W	503889 7976639	503833 7976711	GN07A	GN07B	2020-07-29	9:46	2020-07-29	14:30	4.73	-	Released
189	ARCH	528.0	1420.0	U	A	Gill Net	GN07	DPF	17W	503889 7976639	503833 7976711	GN07A	GN07B	2020-07-29	9:46	2020-07-29	14:30	4.73	-	Mortality
190	ARCH	516.0	1400.0	U	A	Gill Net	GN07	DPF	17W	503889 7976639	503833 7976711	GN07A	GN07B	2020-07-29	9:46	2020-07-29	14:30	4.73	-	Mortality
191	FHSC	226.0	96.0	U	A	Gill Net	GN07	DPF	17W	503889 7976639	503833 7976711	GN07A	GN07B	2020-07-29	9:46	2020-07-29	14:30	4.73	-	Released
192	FHSC	252.0	130.0	U	A	Gill Net	GN07	DPF	17W	503889 7976639	503833 7976711	GN07A	GN07B	2020-07-29	9:46	2020-07-29	14:30	4.73	-	Released
193	FHSC	232.0	925.0	U	A	Gill Net	GN07	DPF	17W	503889 7976639	503833 7976711	GN07A	GN07B	2020-07-29	9:46	2020-07-29	14:30	4.73	-	Released
194	FHSC	182.0	48.3	-	-	Gill Net	GN07	DPF	17W	503889 7976639	503833 7976711	GN07A	GN07B	2020-07-29	9:46	2020-07-29	14:30	4.73	-	Released
195	ARCH	440.0	900.0	U	A	Gill Net	GN08	DPF	17W	503722 7976368	503761 7976464	GN08A	GN08B	2020-07-29	10:01	2020-07-29	14:45	4.73	-	Mortality
202	ARCH	142.0	22.2	-	-	Gill Net	GN08	DPF	17W	503722 7976368	503761 7976464	GN08A	GN08B	2020-07-29	10:01	2020-07-29	14:45	4.73	-	Released
204	ARCH	368.0	600.0	-	-	Gill Net	GN08	DPF	17W	503722 7976368	503761 7976464	GN08A	GN08B	2020-07-29	10:01	2020-07-29	14:45	4.73	-	Released
196	FHSC	172.0	44.5	U	U	Gill Net	GN08	DPF	17W	503722 7976368	503761 7976464	GN08A	GN08B	2020-07-29	10:01	2020-07-29	14:45	4.73	-	Released
197	FHSC	202.0	77.0	U	A	Gill Net	GN08	DPF	17W	503722 7976368	503761 7976464	GN08A	GN08B	2020-07-29	10:01	2020-07-29	14:45	4.73	-	Released
198	FHSC	170.0	42.4	U	U	Gill Net	GN08	DPF	17W	503722 7976368	503761 7976464	GN08A	GN08B	2020-07-29	10:01	2020-07-29	14:45	4.73	-	Released
199	FHSC	160.0	35.3	U	U	Gill Net	GN08	DPF	17W	503722 7976368	503761 7976464	GN08A	GN08B	2020-07-29	10:01	2020-07-29	14:45	4.73	-	Released
200	FHSC	160.0	36.6	U	U	Gill Net	GN08	DPF	17W	503722 7976368	503761 7976464	GN08A	GN08B	2020-07-29	10:01	2020-07-29	14:45	4.73	-	Released
201	FHSC	162.0	35.9	U	U	Gill Net	GN08	DPF	17W	503722 7976368	503761 7976464	GN08A	GN08B	2020-07-29	10:01	2020-07-29	14:45	4.73	-	Released
203	FHSC	118.0	13.2	-	-	Gill Net	GN08	DPF	17W	503722 7976368	503761 7976464	GN08A	GN08B	2020-07-29	10:01	2020-07-29	14:45	4.73	-	Released
205	FHSC	218.0	101.3	U	A	Gill Net	GN09	DPF	17W	503722 7976368	-	GN08A	GN08B	2020-07-29	10:01	2020-07-29	12:00	1.98	-	Released
206	FHSC	166.0	41.1	U	U	Gill Net	GN09	DPF	17W	503722 7976368	-	GN08A	GN08B	2020-07-29	10:01	2020-07-29	12:00	1.98	-	Released
207	FHSC	184.0	59.1	U	U	Gill Net	GN09	DPF	17W	503722 7976368	-	GN08A	GN08B	2020-07-29	10:01	2020-07-29	12:00	1.98	-	Released
208	FHSC	156.0	35.7	U	U	Gill Net	GN09	DPF	17W	503722 7976368	-	GN08A	GN08B	2020-07-29	10:01	2020-07-29	12:00	1.98	-	Released
209	FHSC	160.0	37.2	U	U	Gill Net	GN09	DPF	17W	503722 7976368	-	GN08A	GN08B	2020-07-29	10:01	2020-07-29	12:00	1.98	-	Released
210	FHSC	192.0	57.9	U	A	Gill Net	GN09	DPF	17W	503722 7976368	-	GN08A	GN08B	2020-07-29	10:01	2020-07-29	12:00	1.98	-	Released
211	FHSC	170.0	47.2	-	-	Gill Net	GN09	DPF	17W	503722 7976368	-	GN08A	GN08B	2020-07-29	10:01	2020-07-29	12:00	1.98	-	Released
212	ARCH	638.0	3260.0	U	A	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Euthanized
213	ARCH	422.0	720.0	U	A	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Released
214	ARCH	338.0	340.0	U	A	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Released
215	ARCH	378.0	460.0	U	A	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Mortality
216	ARCH	420.0	830.0	U	A	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Mortality
217	ARCH	352.0	490.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Mortality
218	ARCH	411.0	860.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Mortality
219	ARCH	480.0	1380.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Euthanized
220	ARCH	355.0	450.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Euthanized
221	ARCH	412.0	880.0	F	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Euthanized
222	ARCH	528.0	1660.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Euthanized
223	ARCH	427.0	870.0	F	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Mortality
224	ARCH	313.0	360.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Euthanized
225	ARCH	314.0	400.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Mortality
231	ARCH	414.0	890.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Released
232	ARCH	326.0	450.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Released
233	ARCH	326.0	350.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Released
226	FHSC	244.0	130.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Released
227	FHSC	260.0	180.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Released
228	FHSC	268.0	210.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Released
229	FHSC	200.0	74.4	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Released
230	FHSC	198.0	61.3	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Released
234	FHSC	314.0	400.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Released
235	FHSC	304.0	310.0	-	-	Gill Net	GN10	DPF	17W	504084 7976589	504114 7976676	GN10A	GN10B	2020-07-29	7:43	2020-07-29	14:15	6.53	-	Released
236	ARCH	623.0	2760.0	U	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Released
237	ARCH	447.0	1100.0	U	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Released
238	ARCH	400.0	740.0	U	U	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Released
239	ARCH	282.0	260.0	U	U	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Euthanized
246	ARCH	512.0	1700.0	M	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Euthanized
247	ARCH	430.0	870.0	-	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Euthanized
251	ARCH	668.0	4040.0	U	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Released
252	ARCH	459.0	1310.0	U	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Released
253	ARCH	478.0	1260.0	U	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Released
254	ARCH	460.0	1320.0	U	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Mortality
255	ARCH	462.0	1240.0	U	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Euthanized
256	ARCH	432.0	1070.0	U	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Euthanized
257	ARCH	439.0	940.0	U	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Euthanized
258	ARCH	409.0	780.0	U	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Euthanized
259	ARCH	456.0	1370.0	U	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Euthanized
260	ARCH	366.0	690.0	U	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Euthanized
261	ARCH	268.0	230.0	U	J	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Euthanized
240	FHSC	216.0	89.3	F	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Euthanized
241	FHSC	168.0	37.5	U	U	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Released
242	FHSC	180.0	52.1	U	U	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Released
243	FHSC	201.0	86.6	M	A	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Euthanized
245	FHSC	199.0	76.1	-	-	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Euthanized
250	FHSC	252.0	170.0	-	-	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Euthanized
248	NRSL	168.0	16.7	-	-	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Released
244	SHSC	150.0	25.8	U	U	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Released
249	SHSC	144.0	22.4	U	J	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Released
262	SHSC	129.0	15.3	U	J	Gill Net	GN11	DPF	17W	503026 7976388	502918 7976365	GN11A	GN11B	2020-07-30	8:41	2020-07-30	16:08	7.45	-	Released
263	ARCH	636.0	2910.0	U	A	Gill Net	GN12	DPF	17W	503055 7976426	502979 7976504	GN12A	GN12B	2020-07-20	12:27	2020-07-30	16:20	3.88	-	Released
266	FHSC	295.0	260.0	A	F	Gill Net	GN12	DPF	17W	503055 7976426	502979 7976504	GN12A	GN12B	2020-07-20	12:27	2020-07-30	16:20	3.88	-	Euthanized
264	SHSC	164.0	40.2	U	J	Gill Net	GN12	DPF	17W	503055 7976426	502979 7976504	GN12A	GN12B	2020-07-20	12:27	2020-07-30	16:20	3.88	-	Released
267	SHSC	290.0	370.0	U	A	Gill Net	GN12	DPF	17W	503055 7976426	502979 7976504	GN12A	GN12B	2020-07-20	12:27	2020-07-30	16:20	3.88	-	Released
265	UNSC	134.0	18.1	U	J	Gill Net	GN12	DPF	17W	503055 7976426	502979 7976504	GN12A	GN12B	2020-07-20	12:27	2020-07-30	16:20	3.88	-	Released
272	ARCH	302.0	270.0	U	J	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Euthanized
281	ARCH	509.0	1920.0	U	A	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
282	ARCH	366.0	610.0	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
283	ARCH	414.0	760.0	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
284	ARCH	374.0	720.0	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Euthanized
268	FHSC	175.0	47.6	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
269	FHSC	125.0	13.6	U	J	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
270	FHSC	161.0	33.2	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
273	FHSC	219.0	102.0	-	-	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Euthanized
274	FHSC	199.0	70.9	-	-	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Euthanized
275	FHSC	185.0	55.9	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
277	FHSC	185.0	55.1	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
279	FHSC	170.0	51.2	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
280	FHSC	160.0	35.4	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
286	FHSC	184.0	64.6	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
287	FHSC	188.0	58.3	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
288	FHSC	175.0	52.9	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
290	FHSC	182.0	57.0	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
291	FHSC	168.0	36.7	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
292	FHSC	161.0	34.8	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
293	FHSC	183.0	67.0	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
295	FHSC	137.0	23.2	U	J	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
296	FHSC	198.0	65.8	F	A	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Euthanized
297	FHSC	210.0	69.6	F	A	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Euthanized
298	FHSC	194.0	79.7	F	A	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Euthanized
299	FHSC	223.0	110.8	M	A	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Euthanized
300	FHSC	211.0	90.0	F	A	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Euthanized
271	SHSC	191.0	67.3	U	A	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
276	SHSC	186.0	51.9	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
285	SHSC	366.0	720.0	U	A	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
294	SHSC	194.0	63.4	U	U	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
278	UNSC	122.0	17.6	U	J	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
289	UNSC	129.0	17.3	U	J	Gill Net	GN13	DPF	17W	503147 7976494	503061 7976545	087	088	2020-08-01	11:00	2020-08-01	16:30	5.50	-	Released
393	ARCH	526.0	1620.0	U	A	Gill Net	GN14	IPF	17W	504832 7976584	504815 7976671	GN014S	GN014E	2020-08-02	12:13	2020-08-02	13:30	1.28	-	Released
394	ARCH	380.0	510.0	U	J	Gill Net	GN14	IPF	17W	504832 7976584	504815 7976671	GN014S	GN014E	2020-08-02	12:13	2020-08-02	13:30	1.28	-	Released
395	ARCH	850.0	6110.0	U	A	Gill Net	GN14	IPF	17W	504832 7976584	504815 7976671	GN014S	GN014E	2020-08-02	12:13	2020-08-02	13:30	1.28	-	Released
396	ARCH	425.0	520.0	U	U	Gill Net	GN14	IPF	17W	504832 7976584	504815 7976671	GN014S	GN014E	2020-08-02	12:13	2020-08-02	13:30	1.28	-	Euthanized
397	FHSC	257.0	170.0	F	A	Gill Net	GN14	IPF	17W	504832 7976584	504815 7976671	GN014S	GN014E	2020-08-02	12:13	2020-08-02	13:30	1.28	-	Euthanized
398	FHSC	221.0	104.8	F	A	Gill Net	GN14	IPF	17W	504832 7976584	504815 7976671	GN014S	GN014E	2020-08-02	12:13	2020-08-02	13:30	1.28	-	Euthanized
399	ARCH	350.0	300.0	U	U	Gill Net	GN15	IPF	17W	504675 7976589	504589 7976625	GN015A	GN015B	2020-08-02	12:32	2020-08-02	15:30	2.97	-	Released
400	ARCH	381.0	600.0	U	U	Gill Net	GN15	IPF	17W	504675 7976589	504589 7976625	GN015A	GN015B	2020-08-02	12:32	2020-08-02	15:30	2.97	-	Released
401	ARCH	342.0	410.0	U	U	Gill Net	GN15	IPF	17W	504675 7976589	504589 7976625	GN015A	GN015B	2020-08-02	12:32	2020-08-02	15:30	2.97	-	Released
402	ARCH	361.0	520.0	U	U	Gill Net	GN15	IPF	17W	504675 7976589	504589 7976625	GN015A	GN015B	2020-08-02	12:32	2020-08-02	15:30	2.97	-	Released
403	ARCH	354.0	490.0	U	U	Gill Net	GN15	IPF	17W	504675 7976589	504589 7976625	GN015A	GN015B	2020-08-02	12:32	2020-08-02	15:30	2.97	-	Euthanized
503	ARCH	424.0	940.0	U	U	Gill Net	GN16	IPF	17W	505229 7977692	505108 7977629	GN16A	GN16B	2020-08-06	15:52	2020-08-06	17:28	1.60	-	Released
504	ARCH	496.0	1570.0	U	U	Gill Net	GN16	IPF	17W	505229 7977692	505108 7977629	GN16A	GN16B	2020-08-06	15:52	2020-08-06	17:28	1.60	-	Released
505	ARCH	350.0	460.0	U	U	Gill Net	GN16	IPF	17W	505229 7977692	505108 7977629	GN16A	GN16B	2020-08-06	15:52	2020-08-06	17:28	1.60	-	Euthanized
569	ARCH	859.0	6710.0	M	A	Gill Net	GN17	DPF	17W	504355 7976465	504369 7976566	GN17S	GN17E	2020-08-08	12:30	2020-08-08	16:35	4.08	-	Released
570	ARCH	568.0	2430.0	U	A	Gill Net	GN17	DPF	17W	504355 7976465	504369 7976566	GN17S	GN17E	2020-08-08	12:30	2020-08-08	16:35	4.08	-	Released
571	ARCH	638.0	3990.0	U	A	Gill Net	GN17	DPF	17W	504355 7976465	504369 7976566	GN17S	GN17E	2020-08-08	12:30	2020-08-08	16:35	4.08	-	Released
572	ARCH	321.0	380.0	U	U	Gill Net	GN17	DPF	17W	504355 7976465	504369 7976566	GN17S	GN17E	2020-08-08	12:30	2020-08-08	16:35	4.08	-	Released
573	ARCH	594.0	2550.0	U	U	Gill Net	GN17	DPF	17W	504355 7976465	504369 7976566	GN17S	GN17E	2020-08-08	12:30	2020-08-08	16:35	4.08	-	Released
576	ARCH	452.0	1240.0	-	-	Gill Net	GN17	DPF	17W	504355 7976465	504369 7976566	GN17S	GN17E	2020-08-08	12:30	2020-08-08	16:35	4.08	-	Euthanized
577	ARCH	398.0	750.0	-	-	Gill Net	GN17	DPF	17W	504355 7976465	504369 7976566	GN17S	GN17E	2020-08-08	12:30	2020-08-08	16:35	4.08	-	Euthanized
574	FHSC	184.0	70.6	M	A	Gill Net	GN17	DPF	17W	504355 7976465	504369 7976566	GN17S	GN17E	2020-08-08	12:30	2020-08-08	16:35	4.08	-	Released
575	FHSC	169.0	44.5	M	A	Gill Net	GN17	DPF	17W	504355 7976465	504369 7976566	GN17S	GN17E	2020-08-08	12:30	2020-08-08	16:35	4.08	-	Released
580	ARCH	674.0	3910.0	U	A	Gill Net	GN18	IPF	17W	504520 7976478	504468 7976557	GN19S	GN19E	2020-08-08	12:44	2020-08-08	16:40	3.93	-	Euthanized
581	ARCH	453.0	1140.0	U	A	Gill Net	GN18	IPF	17W	504520 7976478	504468 7976557	GN19S	GN19E	2020-08-08	12:44	2020-08-08	16:40	3.93	-	Euthanized
578	FHSC	226.0	80.0	F	A	Gill Net	GN18	IPF	17W	504520 7976478	504468 7976557	GN19S	GN19E	2020-08-08	12:44	2020-08-08	16:40	3.93	-	Released
579	FHSC	219.0	70.0	F	A	Gill Net	GN18	IPF	17W	504520 7976478	504468 7976557	GN19S	GN19E	2020-08-08	12:44	2020-08-08	16:40	3.93	-	Released
582	FHSC	211.0	90.0	M	A	Gill Net	GN18	IPF	17W	504520 7976478	504468 7976557	GN19S	GN19E	2020-08-08	12:44	2020-08-08	16:40	3.93	-	Released
583	FHSC	212.0	107.9	M	A	Gill Net	GN18	IPF	17W	504520 7976478	504468 7976557	GN19S	GN19E	2020-08-08	12:44	2020-08-08	16:40	3.93	-	Released
620	ARCH	832.0	3830.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
621	ARCH	443.0	1190.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
622	ARCH	380.0	590.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
623	ARCH	403.0	770.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
624	ARCH	414.0	840.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
631	ARCH	435.0	950.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Euthanized
632	ARCH	372.0	570.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Mortality
633	ARCH	581.0	2500.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
634	ARCH	348.0	510.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
635	ARCH	326.0	320.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
636	ARCH	410.0	810.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
637	ARCH	312.0	340.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
638	ARCH	318.0	380.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
639	ARCH	287.0	250.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
640	ARCH	425.0	740.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
641	ARCH	291.0	270.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
642	ARCH	319.0	360.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
643	ARCH	274.0	260.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
644	ARCH	312.0	340.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
645	ARCH	320.0	210.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
648	ARCH	415.0	900.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Euthanized
649	ARCH	383.0	630.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Euthanized
650	ARCH	342.0	460.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Euthanized
625	FHSC	228.0	120.0	F	A	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
627	FHSC	263.0	210.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
628	FHSC	201.0	40.0	F	A	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
630	FHSC	209.0	60.0	F	A	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
646	FHSC	189.0	30.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
647	FHSC	212.0	70.0	F	A	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
626	SHSC	234.0	180.0	-	-	Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
629	SHSC	209.0	120.0			Gill Net	GN19	IPF	17W	505308 7977985	505247 7977912	GN19S	-	2020-08-09	14:40	2020-08-09	15:15	0.58	-	Released
659	ARCH	542.0	1780.0	U	A	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Released
660	ARCH	556.0	2060.0	U	A	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Released
662	ARCH	445.0	790.0	U	U	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Euthanized
663	ARCH	310.0	320.0	U	U	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Euthanized
664	ARCH	472.0	1230.0	U	U	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Euthanized
673	ARCH	409.0	740.0	U	U	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Euthanized
674	ARCH	373.0	500.0	U	U	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Euthanized
675	ARCH	387.0	690.0	U	U	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Euthanized
661	FHSC	216.0	110.0	F	A	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Released
668	FHSC	232.0	120.0	F	A	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Released
669	FHSC	291.0	310.0	F	A	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Released
670	FHSC	264.0	210.0	F	A	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Released
671	FHSC	197.0	50.0	F	A	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Released
672	FHSC	220.0	110.0	F	A	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Released
665	SHSC	234.0	170.0	U	A	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Released
666	SHSC	310.0	400.0	U	A	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Released
667	SHSC	249.0	200.0	U	A	Gill Net	GN20	DPF	17W	504052 7976620	504077 7976705	GN20S	GN20E	2020-08-11	14:42	2020-08-11	17:10	2.47	-	Released
677	ARCH	314.0	290.0	U	U	Gill Net	GN21	DPF	17W	503931 7976573	503844 7976573	GN21S	GN21E	2020-08-13	11:20	2020-08-13	13:45	2.42	-	Released
676	FHSC	149.0	25.0	U	A	Gill Net	GN21	DPF	17W	503931 7976573	503844 7976573	GN21S	GN21E	2020-08-13	11:20	2020-08-13	13:45	2.42	-	Released
678	ARCH	636.0	3920.0	-	A	Gill Net	GN22	IPF	17W	504764 7976620	504777 7976709	GN22S	GN22E	2020-08-14	11:35	2020-08-14	15:52	4.28	-	Released
679	ARCH	463.0	1240.0	-	A	Gill Net	GN22	IPF	17W	504764 7976620	504777 7976709	GN22S	GN22E	2020-08-14	11:35	2020-08-14	15:52	4.28	-	Released
680	ARCH	468.0	1230.0	-	-	Gill Net	GN22	IPF	17W	504764 7976620	504777 7976709	GN22S	GN22E	2020-08-14	11:35	2020-08-14	15:52	4.28	-	Released
681	ARCH	281.0	280.0	-	-	Gill Net	GN22	IPF	17W	504764 7976620	504777 7976709	GN22S	GN22E	2020-08-14	11:35	2020-08-14	15:52	4.28	-	Released
682	ARCH	346.0	470.0	-	-	Gill Net	GN22	IPF	17W	504764 7976620	504777 7976709	GN22S	GN22E	2020-08-14	11:35	2020-08-14	15:52	4.28	-	Released
683	ARCH	309.0	340.0	-	-	Gill Net	GN22	IPF	17W	504764 7976620	504777 7976709	GN22S	GN22E	2020-08-14	11:35	2020-08-14	15:52	4.28	-	Released
684	ARCH	382.0	530.0	-	-	Gill Net	GN22	IPF	17W	504764 7976620	504777 7976709	GN22S	GN22E	2020-08-14	11:35	2020-08-14	15:52	4.28	-	Released
685	ARCH	515.0	1680.0	-	-	Gill Net	GN22	IPF	17W	504764 7976620	504777 7976709	GN22S	GN22E	2020-08-14	11:35	2020-08-14	15:52	4.28	-	Released
686	ARCH	395.0	760.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
687	ARCH	424.0	1100.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
688	ARCH	352.0	520.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
693	ARCH	436.0	1120.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Euthanized
694	ARCH	587.0	2430.0	-	A	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
695	ARCH	359.0	540.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
696	ARCH	420.0	1020.0		-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
697	ARCH	409.0	820.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
699	ARCH	160.0	10.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
700	ARCH	449.0	1200.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Euthanized
701	ARCH	266.0	130.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Euthanized
702	ARCH	275.0	110.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Euthanized
703	ARCH	318.0	140.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
704	ARCH	340.0	230.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
705	ARCH	475.0	1240.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
706	ARCH	330.0	420.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
707	ARCH	360.0	510.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
708	ARCH	308.0	310.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
709	ARCH	298.0	250.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Euthanized
689	FHSC	241.0	200.0	F	A	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
691	FHSC	245.0	170.0	F	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
690	SHSC	264.0	280.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
692	SHSC	262.0	280.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
698	SHSC	126.0	40.0	-	-	Gill Net	GN23A	IPF	17W	505158 7976925	505078 7976930	GN23S	GN23E	2020-08-14	11:40	2020-08-14	16:00	4.33	-	Released
729	FHSC	177.0	40.0	F	-	Gill Net	GN23B	DPF	17W	503501 7976433	503500 7976516	GN23S	GN23E	2020-08-15	9:10	2020-08-15	12:30	3.33	-	Released
730	FHSC	181.0	40.0	F	-	Gill Net	GN23B	DPF	17W	503501 7976433	503500 7976516	GN23S	GN23E	2020-08-15	9:10	2020-08-15	12:30	3.33	-	Released
731	FHSC	257.0	170.0	F	-	Gill Net	GN23B	DPF	17W	503501 7976433	503500 7976516	GN23S	GN23E	2020-08-15	9:10	2020-08-15	12:30	3.33	-	Released
732	FHSC	179.0	40.0	M	-	Gill Net	GN23B	DPF	17W	503501 7976433	503500 7976516	GN23S	GN23E	2020-08-15	9:10	2020-08-15	12:30	3.33	-	Released
733	FHSC	214.0	90.0	M	-	Gill Net	GN23B	DPF	17W	503501 7976433	503500 7976516	GN23S	GN23E	2020-08-15	9:10	2020-08-15	12:30	3.33	-	Released
734	FHSC	178.0	40.0	M	-	Gill Net	GN23B	DPF	17W	503501 7976433	503500 7976516	GN23S	GN23E	2020-08-15	9:10	2020-08-15	12:30	3.33	-	Released
735	FHSC	145.0	20.0	M	-	Gill Net	GN23B	DPF	17W	503501 7976433	503500 7976516	GN23S	GN23E	2020-08-15	9:10	2020-08-15	12:30	3.33	-	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
736	FHSC	224.0	130.0	F	-	Gill Net	GN23B	DPF	17W	503501 7976433	503500 7976516	GN23S	GN23E	2020-08-15	9:10	2020-08-15	12:30	3.33	-	Released
737	FHSC	178.0	40.0	M	-	Gill Net	GN23B	DPF	17W	503501 7976433	503500 7976516	GN23S	GN23E	2020-08-15	9:10	2020-08-15	12:30	3.33	-	Released
738	FHSC	158.0	30.0	F	-	Gill Net	GN23B	DPF	17W	503501 7976433	503500 7976516	GN23S	GN23E	2020-08-15	9:10	2020-08-15	12:30	3.33	-	Released
739	FHSC	202.0	89.7	F	-	Gill Net	GN23B	DPF	17W	503501 7976433	503500 7976516	GN23S	GN23E	2020-08-15	9:10	2020-08-15	12:30	3.33	-	Released
740	FHSC	163.0	40.9	M	-	Gill Net	GN23B	DPF	17W	503501 7976433	503500 7976516	GN23S	GN23E	2020-08-15	9:10	2020-08-15	12:30	3.33	-	Released
741	ARCH	542.0	2120.0	-	A	Gill Net	GN24	DPF	17W	503291 7976526	503373 7976516	GN24S	GN24E	2020-08-15	9:15	2020-08-15	12:35	3.33	-	Released
742	ARCH	548.0	2160.0	-	A	Gill Net	GN24	DPF	17W	503291 7976526	503373 7976516	GN24S	GN24E	2020-08-15	9:15	2020-08-15	12:35	3.33	-	Euthanized
745	ARCH	175.0	65.2	-	-	Gill Net	GN24	DPF	17W	503291 7976526	503373 7976516	GN24S	GN24E	2020-08-15	9:15	2020-08-15	12:35	3.33	-	Released
749	ARSC	143.0	39.4	-	-	Gill Net	GN24	DPF	17W	503291 7976526	503373 7976516	GN24S	GN24E	2020-08-15	9:15	2020-08-15	12:35	3.33	-	Released
743	FHSC	210.0	90.0	F	-	Gill Net	GN24	DPF	17W	503291 7976526	503373 7976516	GN24S	GN24E	2020-08-15	9:15	2020-08-15	12:35	3.33	-	Released
744	FHSC	208.0	90.0	M	-	Gill Net	GN24	DPF	17W	503291 7976526	503373 7976516	GN24S	GN24E	2020-08-15	9:15	2020-08-15	12:35	3.33	-	Released
746	FHSC	162.0	37.1	M	-	Gill Net	GN24	DPF	17W	503291 7976526	503373 7976516	GN24S	GN24E	2020-08-15	9:15	2020-08-15	12:35	3.33	-	Released
747	FHSC	207.0	80.5	F	-	Gill Net	GN24	DPF	17W	503291 7976526	503373 7976516	GN24S	GN24E	2020-08-15	9:15	2020-08-15	12:35	3.33	-	Released
748	FHSC	201.0	73.5	M	-	Gill Net	GN24	DPF	17W	503291 7976526	503373 7976516	GN24S	GN24E	2020-08-15	9:15	2020-08-15	12:35	3.33	-	Released
750	FHSC	146.0	32.7	M	-	Gill Net	GN24	DPF	17W	503291 7976526	503373 7976516	GN24S	GN24E	2020-08-15	9:15	2020-08-15	12:35	3.33	-	Released
81	FHSC	186.0	52.6	U	U	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
82	FHSC	190.0	72.5	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
83	FHSC	178.0	49.5	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
84	FHSC	172.0	43.8	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
85	FHSC	205.0	91.5	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
86	FHSC	230.0	100.0	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
87	FHSC	160.0	33.4	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
88	FHSC	204.0	92.5	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
89	FHSC	235.0	106.7	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
90	FHSC	-	340.0	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Mortality
91	FHSC	307.0	290.0	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
92	FHSC	268.0	200.0	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
93	FHSC	261.0	130.0	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
94	FHSC	214.0	84.9	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
95	FHSC	231.0	110.0	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
96	FHSC	190.0	65.3	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
97	FHSC	231.0	130.0	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
98	FHSC	174.0	62.5	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
99	FHSC	146.0	26.6	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
100	FHSC	180.0	54.4	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
101	FHSC	139.0	24.4	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
102	FHSC	214.0	99.1	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
104	FHSC	182.0	58.0	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Mortality
105	FHSC	248.0	120.0	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
106	FHSC	178.0	51.7	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
107	FHSC	290.0	270.0	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
108	FHSC	230.0	120.0	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
110	FHSC	232.0	112.5	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
111	FHSC	192.0	67.9	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
112	FHSC	270.0	250.0	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
113	FHSC	238.0	130.0	-	-	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
114	FHSC	230.0	150.0	-	-	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
115	FHSC	198.0	79.7	-	-	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
116	FHSC	242.0	140.0	-	-	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
117	FHSC	246.0	160.0	-	-	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
118	FHSC	284.0	220.0	-	-	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
119	FHSC	276.0	250.0	-	-	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
120	FHSC	244.0	140.0	-	-	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
121	FHSC	198.0	66.2	-	-	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
109	SHSC	184.0	64.1	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
80	UNSC	97.0	6.2	U	U	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
103	UNSC	153.0	31.0	U	A	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
122	UNSC	150.0	30.9	-	-	Hoop Net	HN01	DPF	17W	503013 7976410	-	HN01	-	2020-07-24	12:56	2020-07-28	14:10	97.23	-	Released
123	FHSC	151.0	28.3	-	-	Hoop Net	HN02	DPF	17W	503050 7976438	-	HN02	-	2020-07-24	13:05	2020-07-28	14:05	97.00	-	Released
124	FHSC	170.0	42.6	-	-	Hoop Net	HN02	DPF	17W	503050 7976438	-	HN02	-	2020-07-24	13:05	2020-07-28	14:05	97.00	-	Released
125	FHSC	160.0	34.4	-	-	Hoop Net	HN02	DPF	17W	503050 7976438	-	HN02	-	2020-07-24	13:05	2020-07-28	14:05	97.00	-	Mortality
126	FHSC	165.0	43.1	-	-	Hoop Net	HN02	DPF	17W	503050 7976438	-	HN02	-	2020-07-24	13:05	2020-07-28	14:05	97.00	-	Mortality
127	FHSC	174.0	67.1	-	-	Hoop Net	HN02	DPF	17W	503050 7976438	-	HN02	-	2020-07-24	13:05	2020-07-28	14:05	97.00	-	Mortality
311	FHSC	190.0	56.4	U	A	Hoop Net	HN03	DPF	17W	504015 7976580	-	HN03	-	2020-07-28	16:08	2020-07-31	15:12	71.07	-	Released
310	SHSC	159.0	32.9	U	J	Hoop Net	HN03	DPF	17W	504015 7976580	-	HN03	-	2020-07-28	16:08	2020-07-31	15:12	71.07	-	Released
312	SHSC	177.0	36.1	-	-	Hoop Net	HN04	DPF	17W	504128 7976549	-	HN04	-	2020-07-28	16:19	2020-07-31	15:02	70.72	1	Released
408	FHSC	180.0	46.9	U	U	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Released
409	FHSC	147.0	23.6	U	J	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Released
410	FHSC	210.0	81.2	F	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Euthanized
412	FHSC	175.0	48.7	U	U	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Released
413	FHSC	211.0	89.1	M	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Euthanized
414	FHSC	194.0	65.4	F	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Euthanized
415	FHSC	209.0	79.0	F	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Euthanized
416	FHSC	174.0	42.1	U	U	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Released
417	FHSC	182.0	59.0	U	U	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Released
418	FHSC	189.0	80.2	M	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Euthanized
419	FHSC	276.0	230.0	F	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Euthanized
420	FHSC	190.0	70.7	M	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Euthanized
421	FHSC	230.0	125.9	F	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Euthanized
422	FHSC	216.0	91.2	M	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Euthanized
423	FHSC	229.0	120.0	F	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Released
424	FHSC	217.0	101.1	M	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Released
425	FHSC	274.0	190.0	M	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Released
426	FHSC	219.0	102.2	M	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Released
427	FHSC	231.0	130.0	M	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Released
428	FHSC	166.0	36.5	U	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Released
429	FHSC	225.0	107.6	M	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Released
411	GRCD	472.0	1260.0	U	A	Hoop Net	HN05	DPF	17W	503012 7976410	-	HN05	0	2020-07-31	15:36	2020-08-04	8:50	89.23	-	Released
404	FHSC	172.0	46.5	U	U	Hoop Net	HN06	DPF	17W	503138 7976474	-	HN06	-	2020-07-31	15:50	2020-08-04	8:50	89.00	1	Released
405	FHSC	161.0	41.2	U	U	Hoop Net	HN06	DPF	17W	503138 7976474	-	HN06	-	2020-07-31	15:50	2020-08-04	8:50	89.00	1	Euthanized
406	FHSC	223.0	113.9	F	A	Hoop Net	HN06	DPF	17W	503138 7976474	-	HN06	-	2020-07-31	15:50	2020-08-04	8:50	89.00	1	Euthanized
407	FHSC	179.0	50.2	U	A	Hoop Net	HN06	DPF	17W	503138 7976474	-	HN06	-	2020-07-31	15:50	2020-08-04	8:50	89.00	1	Released
NFC	-	-	-	-	-	Hoop Net	HN07	DPF	17W	503004 7976372	-	HN07	-	2020-08-01	10:19	2020-08-04	8:50	70.52	1	-
651	GRCD	459.0	2300.0	U	A	Hoop Net	HN08	IPF	17W	504939 7976888	-	HN08	-	2020-08-02	12:09	2020-08-11	11:20	215.18	30	Released
755	FHSC	180.0	45.3	U	U	Hoop Net	HN09	IPF	17W	504566 7976653	-	HN09	-	2020-08-06	9:12	2020-08-20	13:05	339.88	1	Released
756	FHSC	161.0	38.5	-	-	Hoop Net	HN09	IPF	17W	504566 7976653	-	HN09	-	2020-08-06	9:12	2020-08-20	13:05	339.88	1	Released
757	ARCH	191.0	79.6	U	J	Hoop Net	HN10	IPF	17W	504588 7976654	-	HN10	-	2020-08-06	9:25	2020-08-20	13:00	339.58	1	Euthanized
758	FHSC	163.0	33.2	U	U	Hoop Net	HN10	IPF	17W	504588 7976654	-	HN10	-	2020-08-06	9:25	2020-08-20	13:00	339.58	1	Released
760	ARSC	274.0	200.0	U	A	Hoop Net	HN11	IPF	17W	505362 7978186	-	HN11	-	2020-08-11	12:10	2020-08-20	8:50	212.67	30	Released
759	GRCD	488.0	1180.0	U	A	Hoop Net	HN11	IPF	17W	505362 7978186	-	HN11	-	2020-08-11	12:10	2020-08-20	8:50	212.67	30	Released
1	FHSC	134.0	20.3	U	U	Seine Net	SN01	DPF	17W	503009 7976382	502986 7976340	SN01A	SN01B	2020-07-24	13:34	2020-07-24	13:43	0.15	-	Released
2	FHSC	134.0	16.6	U	U	Seine Net	SN01	DPF	17W	503009 7976382	502986 7976340	SN01A	SN01B	2020-07-24	13:34	2020-07-24	13:43	0.15	-	Released
4	FHSC	130.0	18.9	U	U	Seine Net	SN01	DPF	17W	503009 7976382	502986 7976340	SN01A	SN01B	2020-07-24	13:34	2020-07-24	13:43	0.15	-	Released
3	UNSC	90.0	5.2	U	J	Seine Net	SN01	DPF	17W	503009 7976382	502986 7976340	SN01A	SN01B	2020-07-24	13:34	2020-07-24	13:43	0.15	-	Released
5	UNSC	87.0	5.1	U	J	Seine Net	SN01	DPF	17W	503009 7976382	502986 7976340	SN01A	SN01B	2020-07-24	13:34	2020-07-24	13:43	0.15	-	Released
6	UNSC	91.0	6.0	U	J	Seine Net	SN01	DPF	17W	503009 7976382	502986 7976340	SN01A	SN01B	2020-07-24	13:34	2020-07-24	13:43	0.15	-	Released
7	UNSC	95.0	7.0	U	J	Seine Net	SN01	DPF	17W	503009 7976382	502986 7976340	SN01A	SN01B	2020-07-24	13:34	2020-07-24	13:43	0.15	-	Released
8	UNSC	113.0	9.0	U	J	Seine Net	SN01	DPF	17W	503009 7976382	502986 7976340	SN01A	SN01B	2020-07-24	13:34	2020-07-24	13:43	0.15	-	Released
9	UNSC	95.0	6.2	U	J	Seine Net	SN01	DPF	17W	503009 7976382	502986 7976340	SN01A	SN01B	2020-07-24	13:34	2020-07-24	13:43	0.15	-	Released
10	UNSC	89.0	5.2	U	J	Seine Net	SN01	DPF	17W	503009 7976382	502986 7976340	SN01A	SN01B	2020-07-24	13:34	2020-07-24	13:43	0.15	-	Released
11	UNSC	80.0	3.3	U	J	Seine Net	SN01	DPF	17W	503009 7976382	502986 7976340	SN01A	SN01B	2020-07-24	13:34	2020-07-24	13:43	0.15	-	Released
12	UNSC	80.0	3.4	U	J	Seine Net	SN01	DPF	17W	503009 7976382	502986 7976340	SN01A	SN01B	2020-07-24	13:34	2020-07-24	13:43	0.15	-	Released
13	FHSC	187.0	65.0	U	A	Seine Net	SN02	DPF	17W	502973 7976348	502937 7976296	SN02A	SN02B	2020-07-24	14:31	2020-07-24	14:40	0.15	-	Released
14	FHSC	193.0	54.0	U	A	Seine Net	SN02	DPF	17W	502973 7976348	502937 7976296	SN02A	SN02B	2020-07-24	14:31	2020-07-24	14:40	0.15	-	Released
15	UNSC	135.0	19.6	U	J	Seine Net	SN02	DPF	17W	502973 7976348	502937 7976296	SN02A	SN02B	2020-07-24	14:31	2020-07-24	14:40	0.15	-	Released
16	UNSC	125.0	15.3	U	J	Seine Net	SN02	DPF	17W	502973 7976348	502937 7976296	SN02A	SN02B	2020-07-24	14:31	2020-07-24	14:40	0.15	-	Released
17	UNSC	127.0	17.2	U	J	Seine Net	SN02	DPF	17W	502973 7976348	502937 7976296	SN02A	SN02B	2020-07-24	14:31	2020-07-24	14:40	0.15	-	Released
18	UNSC	81.0	3.9	U	J	Seine Net	SN02	DPF	17W	502973 7976348	502937 7976296	SN02A	SN02B	2020-07-24	14:31	2020-07-24	14:40	0.15	-	Released
19	UNSC	80.0	4.0	U	J	Seine Net	SN02	DPF	17W	502973 7976348	502937 7976296	SN02A	SN02B	2020-07-24	14:31	2020-07-24	14:40	0.15	-	Released
20	UNSC	71.0	2.9	U	J	Seine Net	SN02	DPF	17W	502973 7976348	502937 7976296	SN02A	SN02B	2020-07-24	14:31	2020-07-24	14:40	0.15	-	Released
21	UNSC	78.0	3.1	U	J	Seine Net	SN02	DPF	17W	502973 7976348	502937 7976296	SN02A	SN02B	2020-07-24	14:31	2020-07-24	14:40	0.15	-	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
22	UNSC	80.0	3.6	U	J	Seine Net	SN02	DPF	17W	502973 7976348	502937 7976296	SN02A	SN02B	2020-07-24	14:31	2020-07-24	14:40	0.15	-	Released
23	UNSC	80.0	3.8	U	J	Seine Net	SN02	DPF	17W	502973 7976348	502937 7976296	SN02A	SN02B	2020-07-24	14:31	2020-07-24	14:40	0.15	-	Released
24	UNSC	81.0	4.0	U	J	Seine Net	SN02	DPF	17W	502973 7976348	502937 7976296	SN02A	SN02B	2020-07-24	14:31	2020-07-24	14:40	0.15	-	Released
25	UNSC	72.0	2.6	U	J	Seine Net	SN02	DPF	17W	502973 7976348	502937 7976296	SN02A	SN02B	2020-07-24	14:31	2020-07-24	14:40	0.15	-	Released
26	UNSC	65.0	2.4	U	J	Seine Net	SN02	DPF	17W	502973 7976348	502937 7976296	SN02A	SN02B	2020-07-24	14:31	2020-07-24	14:40	0.15	-	Released
27	FHSC	177.0	37.9	U	U	Seine Net	SN03	DPF	17W	502924 7976300	502896 7976256	SN03A	SN03B	2020-07-24	14:43	2020-07-24	14:49	0.10	-	Released
30	FHSC	142.0	22.3	U	U	Seine Net	SN03	DPF	17W	502924 7976300	502896 7976256	SN03A	SN03B	2020-07-24	14:43	2020-07-24	14:49	0.10	-	Released
28	UNSC	131.0	17.7	U	J	Seine Net	SN03	DPF	17W	502924 7976300	502896 7976256	SN03A	SN03B	2020-07-24	14:43	2020-07-24	14:49	0.10	-	Released
29	UNSC	94.0	5.9	U	J	Seine Net	SN03	DPF	17W	502924 7976300	502896 7976256	SN03A	SN03B	2020-07-24	14:43	2020-07-24	14:49	0.10	-	Released
31	UNSC	91.0	5.6	U	J	Seine Net	SN03	DPF	17W	502924 7976300	502896 7976256	SN03A	SN03B	2020-07-24	14:43	2020-07-24	14:49	0.10	-	Released
32	UNSC	88.0	4.9	U	J	Seine Net	SN03	DPF	17W	502924 7976300	502896 7976256	SN03A	SN03B	2020-07-24	14:43	2020-07-24	14:49	0.10	-	Released
33	UNSC	106.0	9.3	U	J	Seine Net	SN03	DPF	17W	502924 7976300	502896 7976256	SN03A	SN03B	2020-07-24	14:43	2020-07-24	14:49	0.10	-	Released
34	UNSC	133.0	17.8	U	J	Seine Net	SN03	DPF	17W	502924 7976300	502896 7976256	SN03A	SN03B	2020-07-24	14:43	2020-07-24	14:49	0.10	-	Released
NFC	-	-	-	-	-	Seine Net	SN04	DPF	17W	502885 7976257	502841 7976218	SN04A	SN04B	2020-07-24	15:13	2020-07-24	15:18	0.08	-	-
35	UNSC	80.0	3.3	U	J	Seine Net	SN05	DPF	17W	502830 7976228	502775 7976222	SN05A	SN05B	2020-07-24	15:20	2020-07-24	15:25	0.08	-	Released
36	UNSC	79.0	2.9	U	J	Seine Net	SN05	DPF	17W	502830 7976228	502775 7976222	SN05A	SN05B	2020-07-24	15:20	2020-07-24	15:25	0.08	-	Released
37	UNSC	71.0	2.6	U	J	Seine Net	SN05	DPF	17W	502830 7976228	502775 7976222	SN05A	SN05B	2020-07-24	15:20	2020-07-24	15:25	0.08	-	Released
38	UNSC	128.0	16.6	U	J	Seine Net	SN05	DPF	17W	502830 7976228	502775 7976222	SN05A	SN05B	2020-07-24	15:20	2020-07-24	15:25	0.08	-	Released
39	FHSC	163.0	46.5	U	U	Seine Net	SN06	DPF	17W	502769 7976233	502716 7976225	SN06A	SN06B	2020-07-24	15:32	2020-07-24	15:37	0.08	-	Released
40	UNSC	115.0	11.4	U	U	Seine Net	SN06	DPF	17W	502769 7976233	502716 7976225	SN06A	SN06B	2020-07-24	15:32	2020-07-24	15:37	0.08	-	Released
41	UNSC	84.0	5.4	U	U	Seine Net	SN06	DPF	17W	502769 7976234	502716 7976226	SN06A	SN06B	2020-07-24	15:32	2020-07-24	15:37	0.08	-	Released
44	FHSC	144.0	23.4	U	U	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
45	FHSC	126.0	15.9	U	U	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
46	FHSC	92.0	6.0	U	U	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
47	FHSC	93.0	5.8	U	U	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
48	FHSC	87.0	5.1	U	U	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
50	FHSC	85.0	3.9	U	U	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
51	FHSC	84.0	3.9	U	U	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
52	FHSC	78.0	3.3	U	U	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
53	FHSC	84.0	3.7	U	U	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
54	FHSC	86.0	4.6	U	U	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
55	FHSC	72.0	2.6	U	J	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
56	FHSC	73.0	2.8	U	U	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
42	NRSL	132.0	6.3	U	A	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
43	NRSL	140.0	6.6	U	A	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
49	UNSC	80.0	3.8	U	U	Seine Net	SN07	DPF	17W	503058 7976461	503137 7976466	SN07A	SN07B	2020-07-24	10:01	2020-07-24	10:10	0.15	-	Released
57	FHSC	123.0	14.1	U	A	Seine Net	SN08	DPF	17W	503007 7976428	503041 7976434	SN08A	SN08B	2020-07-25	11:18	2020-07-25	11:29	0.18	-	Released
58	FHSC	115.0	11.1	U	A	Seine Net	SN08	DPF	17W	503007 7976428	503041 7976434	SN08A	SN08B	2020-07-25	11:18	2020-07-25	11:29	0.18	-	Released
59	FHSC	83.0	4.1	U	A	Seine Net	SN08	DPF	17W	503007 7976428	503041 7976434	SN08A	SN08B	2020-07-25	11:18	2020-07-25	11:29	0.18	-	Released
60	FHSC	87.0	4.8	U	A	Seine Net	SN08	DPF	17W	503007 7976428	503041 7976434	SN08A	SN08B	2020-07-25	11:18	2020-07-25	11:29	0.18	-	Released
61	NRSL	-	-	-	J	Seine Net	SN08	DPF	17W	503007 7976428	503041 7976434	SN08A	SN08B	2020-07-25	11:18	2020-07-25	11:29	0.18	-	Mortality
NFC	-	-	-	-	-	Seine Net	SN09	DPF	17W	504126 7976538	504166 7976515	SN09S	SN09E	2020-07-26	13:22	2020-07-26	13:26	0.07	-	-
62	UNSC	11.0	<0.5	U	J	Seine Net	SN10	DPF	17W	504173 7976520	504223 7976496	SN10S	SN10E	2020-07-26	13:28	2020-07-26	13:31	0.05	-	Released
63	ARCH	132.0	18.7	U	J	Seine Net	SN11	DPF	17W	504224 7976499	504277 7976480	SN11S	SN11E	2020-07-26	13:42	2020-07-26	13:46	0.07	-	Released
64	UNSC	118.0	13.0	U	J	Seine Net	SN12	DPF	17W	504064 7976542	504006 7976560	SN12S	SN12E	2020-07-26	14:06	2020-07-26	14:10	0.07	-	Released
65	UNSC	113.0	11.3	U	J	Seine Net	SN12	DPF	17W	504064 7976542	504006 7976560	SN12S	SN12E	2020-07-26	14:06	2020-07-26	14:10	0.07	-	Released
66	UNSC	31.0	0.5	U	J	Seine Net	SN13	DPF	17W	503930 7976441	503889 7976374	SN13S	SN13E	2020-07-29	9:55	2020-07-29	10:10	0.08	-	Released
67	UNSC	22.0	<0.5	U	J	Seine Net	SN13	DPF	17W	503930 7976441	503889 7976374	SN13S	SN13E	2020-07-29	9:55	2020-07-29	10:10	0.08	-	Released
68	UNSC	27.0	<0.5	U	J	Seine Net	SN13	DPF	17W	503930 7976441	503889 7976374	SN13S	SN13E	2020-07-29	9:55	2020-07-29	10:10	0.08	-	Released
69	UNSC	30.0	<0.5	U	J	Seine Net	SN13	DPF	17W	503930 7976441	503889 7976374	SN13S	SN13E	2020-07-29	9:55	2020-07-29	10:10	0.08	-	Released
70	UNSC	25.0	<0.5	U	J	Seine Net	SN13	DPF	17W	503930 7976441	503889 7976374	SN13S	SN13E	2020-07-29	9:55	2020-07-29	10:10	0.08	-	Released
71	UNSC	30.0	<0.5	U	J	Seine Net	SN13	DPF	17W	503930 7976441	503889 7976374	SN13S	SN13E	2020-07-29	9:55	2020-07-29	10:10	0.08	-	Released
72	UNSC	23.0	<0.5	U	J	Seine Net	SN13	DPF	17W	503930 7976441	503889 7976374	SN13S	SN13E	2020-07-29	9:55	2020-07-29	10:10	0.08	-	Released
73	UNSC	-	<0.5	U	J	Seine Net	SN13	DPF	17W	503930 7976441	503889 7976374	SN13S	SN13E	2020-07-29	9:55	2020-07-29	10:10	0.08	-	Mortality
74	UNSC	-	<0.5	U	J	Seine Net	SN13	DPF	17W	503930 7976441	503889 7976374	SN13S	SN13E	2020-07-29	9:55	2020-07-29	10:10	0.08	-	Mortality
75	UNSC	27.0	<0.5	U	J	Seine Net	SN13	DPF	17W	503930 7976441	503889 7976374	SN13S	SN13E	2020-07-29	9:55	2020-07-29	10:10	0.08	-	Mortality
76	UNSC	28.0	<0.5	U	J	Seine Net	SN13	DPF	17W	503930 7976441	503889 7976374	SN13S	SN13E	2020-07-29	9:55	2020-07-29	10:10	0.08	-	Mortality
77	UNSC	24.0	<0.5	U	J	Seine Net	SN13	DPF	17W	503930 7976441	503889 7976374	SN13S	SN13E	2020-07-29	9:55	2020-07-29	10:10	0.08	-	Mortality
NFC	-	-	-	-	-	Seine Net	SN14	DPF	17W	503883 7976374	503815 7976343	SN14S	SN14E	2020-07-29	10:08	2020-07-29	10:12	0.07	-	-
78	UNSC	80.0	3.4	U	J	Seine Net	SN15	DPF	17W	503807 7976346	503729 7976350	SN15S	SN15E	2020-07-29	10:14	2020-07-29	10:20	0.10	-	Released
79	UNSC	91.0	6.5	U	J	Seine Net	SN16	DPF	17W	503716 7976364	503647 7976378	SN16S	SN16E	2020-07-29	10:43	2020-07-29	10:47	0.07	-	Released
NFC	-	-	-	-	-	Seine Net	SN17	DPF	17W	503640 7976387	503569 7976405	SN17S	SN17E	2020-07-29	11:16	2020-07-29	11:21	0.08	-	-
NFC	-	-	-	-	-	Seine Net	SN18	DPF	17W	503568 7976404	503470 7976434	SN18S	SN18E	2020-07-29	11:38	2020-07-29	11:47	0.15	-	-
843	STSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Mortality
844	STSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
845	STSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
846	STSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
847	STSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
848	STSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
849	STSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
850	STSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
851	STSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
852	STSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
764	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Mortality
765	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Mortality
766	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
767	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
768	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
769	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
770	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
771	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
772	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
773	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
774	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
775	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
776	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
777	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
778	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
779	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
780	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
781	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
782	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
783	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
784	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
785	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
786	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
787	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
788	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
789	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
790	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
791	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
792	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
793	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
794	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
795	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
796	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
797	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
798	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
799	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
800	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
801	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
802	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
803	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
804	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
805	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
806	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
807	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
808	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
809	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
810	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
811	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
812	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
813	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
814	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
815	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
816	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
817	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
818	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
819	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
820	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
821	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
822	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
823	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
824	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
825	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
826	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
827	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
828	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
829	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
830	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
831	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Mortality
832	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Mortality
833	ARCD	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
834	UNSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Mortality
835	UNSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Mortality
836	UNSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
837	UNSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
838	UNSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
839	UNSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
840	UNSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
841	UNSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released
842	UNSC	-	-	U	J	Trawling	TRL01	IPF	17W	501962 7976503	502402 7976580	TR01S	TR01E	2020-08-13	16:11	2020-08-13	16:27	0.27	23-27 m	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
1	GRCD	532.0	1690.0	U	A	Angling - Jigging	AN01	DPF	17W	503217 7976600	-	AN01	-	2021-08-06	12:28	2021-08-06	12:50	0.37	15	Released
2	GRCD	475.0	1352.0	U	A	Angling - Jigging	AN01	DPF	17W	503217 7976600	-	AN01	-	2021-08-06	12:28	2021-08-06	12:50	0.37	15	Released
3	GRCD	554.0	1876.0	U	A	Angling - Jigging	AN01	DPF	17W	503217 7976600	-	AN01	-	2021-08-06	12:28	2021-08-06	12:50	0.37	15	Released
4	GRCD	476.0	1173.0	U	A	Angling - Jigging	AN01	DPF	17W	503217 7976600	-	AN01	-	2021-08-06	12:28	2021-08-06	12:50	0.37	15	Released
5	GRCD	590.0	2890.0	U	A	Angling - Jigging	AN01	DPF	17W	503217 7976600	-	AN01	-	2021-08-06	12:28	2021-08-06	12:50	0.37	15	Released
6	GRCD	691.0	4075.0	U	A	Angling - Jigging	AN01	DPF	17W	503217 7976600	-	AN01	-	2021-08-06	12:28	2021-08-06	12:50	0.37	15	Released
7	SHSC	400.0	825.0	U	A	Angling - Jigging	AN01	DPF	17W	503217 7976600	-	AN01	-	2021-08-06	12:28	2021-08-06	12:50	0.37	15	Released
NFC	-	-	-	-	-	Angling - Jigging	AN02	IPF	17W	505732 7978481	-	AN02	-	2021-08-07	13:39	2021-08-07	14:10	0.52	30	-
NFC	-	-	-	-	-	Angling - Jigging	AN03	IPF	17W	504883 7976683	504934 7976601	AN03	AN03B	2021-08-07	14:22	2021-08-07	14:54	0.53	10	-
1	FHSC	210.0	70.0	U	U	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Released
2	FHSC	149.0	30.0	U	U	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Released
3	FHSC	204.0	110.0	U	U	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Released
4	FHSC	219.0	100.0	U	U	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Released
5	FHSC	186.0	60.0	U	U	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Released
6	FHSC	233.0	120.0	U	U	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Released
7	FHSC	203.0	70.0	U	U	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Released
8	FHSC	195.0	55.0	U	U	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Released
9	FHSC	169.0	40.0	U	U	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Released
10	FHSC	154.0	40.0	U	U	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Released
11	ARSC	134.0	15.0	U	U	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Released
12	ARSC	237.0	120.0	U	U	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Released
13	ARSC	246.0	180.0	U	U	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Released
14	ARSC	222.0	100.0	U	U	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Released
15	FHSC	265.0	185.0	F	A	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Euthanized
16	FHSC	256.0	155.0	F	A	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Euthanized
17	FHSC	281.0	190.0	M	A	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Euthanized
18	FHSC	273.0	187.0	M	A	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Euthanized
19	FHSC	228.0	103.0	M	A	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Euthanized
20	FHSC	266.0	199.0	F	A	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Euthanized
21	FHSC	205.0	79.0	F	A	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Euthanized
22	FHSC	267.0	183.0	F	A	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Euthanized
23	FHSC	211.0	83.0	M	A	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Euthanized
24	FHSC	259.0	161.0	F	A	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Euthanized
25	FHSC	214.0	87.0	F	A	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Euthanized
26	FHSC	245.0	127.0	F	A	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Euthanized
27	FHSC	216.0	100.0	M	A	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Euthanized
28	FHSC	256.0	120.0	M	A	Angling - Jigging	AN04	DPF	17W	503220 7976558	503167 7976507	AN04	AN04B	2021-08-08	10:41	2021-08-08	11:45	1.07	3	Euthanized
1	SHSC	229.0	160.0	U	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
2	FHSC	172.0	60.0	U	U	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
3	FHSC	187.0	70.0	U	U	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
4	FHSC	167.0	45.0	U	U	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
5	FHSC	197.0	80.0	U	U	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
6	FHSC	178.0	50.0	U	U	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
7	FHSC	197.0	80.0	U	U	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
8	FHSC	180.0	75.0	U	U	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
9	ARSC	105.0	40.0	U	U	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
10	ARSC	114.0	20.0	U	U	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
11	FHSC	175.0	60.0	U	U	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
12	FHSC	188.0	65.0	U	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
13	FHSC	198.0	90.0	U	U	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
14	FHSC	169.0	50.0	U	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
15	FHSC	184.0	65.0	U	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
16	FHSC	178.0	50.0	U	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
17	FHSC	172.0	60.0	U	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Released
18	FHSC	250.0	158.0	M	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Euthanized
19	FHSC	228.0	106.0	F	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Euthanized
20	FHSC	309.0	336.0	F	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Euthanized
21	FHSC	206.0	84.0	F	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Euthanized
22	FHSC	253.0	150.0	F	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Euthanized
23	FHSC	211.0	91.0	F	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Euthanized
24	FHSC	257.0	145.0	M	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Euthanized
25	FHSC	211.0	91.0	M	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Euthanized
26	FHSC	209.0	82.0	M	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Euthanized
27	FHSC	228.0	115.0	F	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Euthanized
28	FHSC	214.0	74.0	M	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Euthanized
29	FHSC	251.0	129.0	M	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Euthanized
30	FHSC	233.0	115.0	F	A	Angling - Jigging	AN05	DPF	17W	503161 7976510	-	AN05	-	2021-08-09	8:36	2021-08-09	8:55	0.32	2	Euthanized
1	ARCH	630.0	2750.0	U	A	Angling - Jigging	AN06	DPF	17W	503209 7976608	-	AN06	-	10-Aug-21	9:35	2021-08-10	10:00	0.42	15	Released
2	GRCD	510.0	1730.0	U	A	Angling - Jigging	AN06	DPF	17W	503209 7976608	-	AN06	-	10-Aug-21	9:35	2021-08-10	10:00	0.42	15	Released
3	GRCD	531.0	1890.0	U	A	Angling - Jigging	AN06	DPF	17W	503209 7976608	-	AN06	-	10-Aug-21	9:35	2021-08-10	10:00	0.42	15	Released
1	FHSC	211.0	110.0	M	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
2	FHSC	249.0	150.0	F	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
3	FHSC	221.0	130.0	M	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
4	FHSC	168.0	40.0	U	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
5	FHSC	237.0	120.0	F	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
6	FHSC	194.0	80.0	M	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
7	FHSC	178.0	40.0	F	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
8	FHSC	224.0	100.0	M	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
9	FHSC	255.0	190.0	F	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
10	FHSC	213.0	100.0	M	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
11	FHSC	170.0	40.0	M	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
12	FHSC	198.0	70.0	F	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
13	FHSC	179.0	60.0	F	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
14	FHSC	162.0	50.0	M	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
15	FHSC	177.0	60.0	F	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
16	FHSC	156.0	40.0	M	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
17	FHSC	190.0	100.0	M	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
18	FHSC	179.0	80.0	M	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
19	FHSC	176.0	60.0	F	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
20	FHSC	159.0	40.0	M	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
21	ARSC	129.0	30.0	U	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
22	FHSC	196.0	80.0	M	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
23	FHSC	179.0	50.0	M	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
24	FHSC	148.0	50.0	F	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
25	ARSC	130.0	20.0	U	U	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Released
26	FHSC	230.0	114.0	M	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Euthanized
27	FHSC	312.0	250.0	F	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Euthanized
28	FHSC	280.0	197.0	M	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Euthanized
29	FHSC	215.0	82.0	M	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Euthanized
30	FHSC	325.0	321.0	F	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Euthanized
31	FHSC	216.0	95.0	M	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Euthanized
32	FHSC	249.0	143.0	M	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Euthanized
33	FHSC	248.0	148.0	M	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Euthanized
34	FHSC	225.0	109.0	M	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Euthanized
35	FHSC	239.0	116.0	F	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Euthanized
36	FHSC	214.0	86.0	M	A	Angling - Jigging	AN07	DPF	17W	503168 7976510	503078 7976456	AN07	AN07B	10-Aug-21	10:20	2021-08-10	11:16	0.93	7	Euthanized
1	GRCD	570.0	2350.0	U	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
2	ARCH	522.0	1620.0	U	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
3	GRCD	504.0	1750.0	U	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
4	GRCD	512.0	1650.0	U	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
5	GRCD	455.0	1210.0	U	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
6	GRCD	540.0	1760.0	U	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
7	GRCD	474.0	1070.0	U	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
8	GRCD	572.0	1390.0	U	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
9	ARCH	700.0	4600.0	U	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
10	FHSC	250.0	168.0	U	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
11	FHSC	276.0	240.0	U	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
12	FHSC	263.0	160.0	U	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
13	FHSC	276.0	240.0	F	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
14	FHSC	215.0	80.0	M	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
15	FHSC	212.0	80.0	M	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
16	ARSC	120.0	20.0	U	U	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
17	FHSC	174.0	50.0	U	U	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released
18	FHSC	193.0	50.0	F	A	Angling - Jigging	AN08	DPF	17W	503197 7976533	503227 7976602	AN08	AN08B	2021-08-10	15:50	2021-08-10	16:53	1.05	15	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
1	SHSC	341.0	400.0	U	A	Angling - Jigging	AN09	DPF	17W	503975 7976671	-	AN09	-	2021-08-11	15:04	2021-08-11	15:29	0.42	10	Released
2	SHSC	365.0	530.0	U	A	Angling - Jigging	AN09	DPF	17W	503975 7976671	-	AN09	-	2021-08-11	15:04	2021-08-11	15:29	0.42	10	Released
3	ARCH	559.0	1890.0	U	A	Angling - Jigging	AN09	DPF	17W	503975 7976671	-	AN09	-	2021-08-11	15:04	2021-08-11	15:29	0.42	10	Released
1	GRCD	570.0	2510.0	U	A	Angling - Jigging	AN10	DPF	17W	503219 7976597	-	AN10	-	2021-08-11	16:18	2021-08-11	17:00	0.70	15	Released
2	GRCD	619.0	3200.0	U	A	Angling - Jigging	AN10	DPF	17W	503219 7976597	-	AN10	-	2021-08-11	16:18	2021-08-11	17:00	0.70	15	Released
3	GRCD	515.0	1510.0	U	A	Angling - Jigging	AN10	DPF	17W	503219 7976597	-	AN10	-	2021-08-11	16:18	2021-08-11	17:00	0.70	15	Released
4	SHSC	272.0	300.0	U	A	Angling - Jigging	AN10	DPF	17W	503219 7976597	-	AN10	-	2021-08-11	16:18	2021-08-11	17:00	0.70	15	Released
1	GRCD	568.0	2520.0	U	A	Angling - Jigging	AN11	DPF	17W	503196 7976607	-	AN11	-	2021-08-12	11:10	2021-08-12	12:30	1.33	12	Released
2	GRCD	481.0	1120.0	U	A	Angling - Jigging	AN11	DPF	17W	503196 7976607	-	AN11	-	2021-08-12	11:10	2021-08-12	12:30	1.33	12	Released
3	GRCD	467.0	1100.0	U	A	Angling - Jigging	AN11	DPF	17W	503196 7976607	-	AN11	-	2021-08-12	11:10	2021-08-12	12:30	1.33	12	Released
NFC	-	-	-	-	-	Angling - Trolling	AN12	IPF	17W	503103 7976563	502074 7976769	AN12A	AN12B	2021-08-12	16:03	2021-08-12	16:18	0.25	8	-
1	GRCD	580	2690.0	U	A	Angling - Jigging	AN13	DPF	17W	503205 7976617	-	AN13	-	2021-08-12	16:36	2021-08-12	16:59	0.38	15	Released
1	FHSC	221.0	80.0	M	A	Angling - Jigging	AN14	DPF	17W	503367 7976582	503439 7976600	AN14A	AN14B	2021-08-14	14:12	2021-08-14	15:32	1.33	1.5	Released
2	FHSC	181.0	50.0	F	A	Angling - Jigging	AN14	DPF	17W	503367 7976582	503439 7976600	AN14A	AN14B	2021-08-14	14:12	2021-08-14	15:32	1.33	1.5	Released
1	ARCH	268.0	230.0	U	U	Angling - Jigging	AN15	REF - T	17W	522102 7996232	522088 7995960	AN15A	AN15B	2021-08-15	11:10	2021-08-15	11:32	0.37	3	Released
2	ARSC	183.0	70.0	U	U	Angling - Jigging	AN15	REF - T	17W	522102 7996232	522088 7995960	AN15A	AN15B	2021-08-15	11:10	2021-08-15	11:32	0.37	3	Released
3	ARSC	115.0	30.0	U	U	Angling - Jigging	AN15	REF - T	17W	522102 7996232	522088 7995960	AN15A	AN15B	2021-08-15	11:10	2021-08-15	11:32	0.37	3	Released
4	ARSC	104.0	15.0	U	U	Angling - Jigging	AN15	REF - T	17X	522102 7996232	522088 7995960	AN15A	AN15B	2021-08-15	11:10	2021-08-15	11:32	0.37	3	Released
NFC	-	-	-	-	-	Angling - Jigging	AN16	REF - T	17X	521736 7996932	-	AN16A	-	2021-08-15	11:37	2021-08-15	11:40	0.05	30	-
NFC	-	-	-	-	-	Angling - Jigging	AN17	REF - T	17X	522287 7996483	-	AN17	-	2021-08-15	11:57	2021-08-15	12:30	0.55	5	-
NFC	-	-	-	-	-	Angling - Jigging	AN18	REF - T	17X	520689 7996776	-	AN18	-	2021-08-15	13:50	2021-08-15	14:03	0.22	4	-
NFC	-	-	-	-	-	Angling - Trolling	AN19	REF - T	17X	523032 7996890	523181 7996769	AN19A	AN19B	2021-08-15	14:39	2021-08-15	15:00	0.35	2	-
1	GRCD	491.0	1490.0	U	U	Angling - Jigging	AN20	IPF	17W	505749 7978496	-	AN20	-	2021-08-16	11:05	2021-08-16	11:30	0.42	20	Released
2	GRCD	405.0	780.0	U	U	Angling - Jigging	AN20	IPF	17W	505749 7978496	-	AN20	-	2021-08-16	11:05	2021-08-16	11:30	0.42	20	Released
3	GRCD	518.0	1760.0	U	U	Angling - Jigging	AN20	IPF	17W	505749 7978496	-	AN20	-	2021-08-16	11:05	2021-08-16	11:30	0.42	20	Released
4	GRCD	447.0	970.0	U	U	Angling - Jigging	AN20	IPF	17W	505749 7978496	-	AN20	-	2021-08-16	11:05	2021-08-16	11:30	0.42	20	Released
5	GRCD	495.0	1370.0	U	U	Angling - Jigging	AN20	IPF	17W	505749 7978496	-	AN20	-	2021-08-16	11:05	2021-08-16	11:30	0.42	20	Released
6	GRCD	696.0	4930.0	U	U	Angling - Jigging	AN20	IPF	17W	505749 7978496	-	AN20	-	2021-08-16	11:05	2021-08-16	11:30	0.42	20	Released
7	GRCD	642.0	3420.0	U	U	Angling - Jigging	AN20	IPF	17W	505749 7978496	-	AN20	-	2021-08-16	11:05	2021-08-16	11:30	0.42	20	Released
8	GRCD	440.0	1040.0	U	U	Angling - Jigging	AN20	IPF	17W	505749 7978496	-	AN20	-	2021-08-16	11:05	2021-08-16	11:30	0.42	20	Released
9	GRCD	512.0	1320.0	U	U	Angling - Jigging	AN20	IPF	17W	505749 7978496	-	AN20	-	2021-08-16	11:05	2021-08-16	11:30	0.42	20	Released
10	GRCD	470.0	1210.0	U	U	Angling - Jigging	AN20	IPF	17W	505749 7978496	-	AN20	-	2021-08-16	11:05	2021-08-16	11:30	0.42	20	Released
11	GRCD	444.0	1170.0	U	U	Angling - Jigging	AN20	IPF	17W	505749 7978496	-	AN20	-	2021-08-16	11:05	2021-08-16	11:30	0.42	20	Released
12	SHSC	329.0	500.0	U	U	Angling - Jigging	AN20	IPF	17W	505749 7978496	-	AN20	-	2021-08-16	11:05	2021-08-16	11:30	0.42	20	Released
13	SHSC	300.0	340.0	U	U	Angling - Jigging	AN20	IPF	17W	505749 7978496	-	AN20	-	2021-08-16	11:05	2021-08-16	11:30	0.42	20	Released
14	SHSC	410.0	1020.0	U	U	Angling - Jigging	AN20	IPF	17W	505749 7978496	-	AN20	-	2021-08-16	11:05	2021-08-16	11:30	0.42	20	Released
1	GRCD	568.0	2180.0	U	A	Angling - Jigging	AN21	IPF	17W	505728 7978489	-	AN21	-	2021-08-16	16:10	2021-08-16	16:25	0.25	20	Released
2	SHSC	232.0	140.0	U	U	Angling - Jigging	AN21	IPF	17W	505728 7978489	-	AN21	-	2021-08-16	16:10	2021-08-16	16:25	0.25	20	Released
1	FHSC	239.0	150.0	F	A	Angling - Jigging	AN22	DPF	17W	504054 7976663	504011 7976606	AN22A	AN22B	2021-08-16	16:35	2021-08-16	17:05	0.50	3	Released
2	FHSC	234.0	130.0	M	A	Angling - Jigging	AN22	DPF	17W	504054 7976663	504011 7976606	AN22A	AN22B	2021-08-16	16:35	2021-08-16	17:05	0.50	3	Released
3	FHSC	241.0	140.0	F	A	Angling - Jigging	AN22	DPF	17W	504054 7976663	504011 7976606	AN22A	AN22B	2021-08-16	16:35	2021-08-16	17:05	0.50	3	Released
4	FHSC	210.0	90.0	M	A	Angling - Jigging	AN22	DPF	17W	504054 7976663	504011 7976606	AN22A	AN22B	2021-08-16	16:35	2021-08-16	17:05	0.50	3	Released
5	FHSC	184.0	45.0	M	A	Angling - Jigging	AN22	DPF	17W	504054 7976663	504011 7976606	AN22A	AN22B	2021-08-16	16:35	2021-08-16	17:05	0.50	3	Released
6	ARSC	129.0	40.0	U	U	Angling - Jigging	AN22	DPF	17W	504054 7976663	504011 7976606	AN22A	AN22B	2021-08-16	16:35	2021-08-16	17:05	0.50	3	Released
7	ARSC	105.0	20.0	U	U	Angling - Jigging	AN22	DPF	17W	504054 7976663	504011 7976606	AN22A	AN22B	2021-08-16	16:35	2021-08-16	17:05	0.50	3	Released
8	ARSC	113.0	30.0	U	U	Angling - Jigging	AN22	DPF	17W	504054 7976663	504011 7976606	AN22A	AN22B	2021-08-16	16:35	2021-08-16	17:05	0.50	3	Released
9	ARSC	134.0	30.0	U	U	Angling - Jigging	AN22	DPF	17W	504054 7976663	504011 7976606	AN22A	AN22B	2021-08-16	16:35	2021-08-16	17:05	0.50	3	Released
10	ARSC	121.0	30.0	U	U	Angling - Jigging	AN22	DPF	17W	504054 7976663	504011 7976606	AN22A	AN22B	2021-08-16	16:35	2021-08-16	17:05	0.50	3	Released
11	ARSC	122.0	35.0	U	U	Angling - Jigging	AN22	DPF	17W	504054 7976663	504011 7976606	AN22A	AN22B	2021-08-16	16:35	2021-08-16	17:05	0.50	3	Released
1	GRCD	529.0	1990.0	U	A	Angling - Jigging	AN23	DPF	17W	503202 7976607	-	AN23	-	2021-08-16	17:10	2021-08-16	17:45	0.58	15	Released
2	ARCH	552.0	2030.0	U	A	Angling - Jigging	AN23	DPF	17W	503202 7976607	-	AN23	-	2021-08-16	17:10	2021-08-16	17:45	0.58	15	Released
3	GRCD	454.0	1120.0	U	U	Angling - Jigging	AN23	DPF	17W	503202 7976607	-	AN23	-	2021-08-16	17:10	2021-08-16	17:45	0.58	15	Released
4	GRCD	504.0	810.0	U	A	Angling - Jigging	AN23	DPF	17W	503202 7976607	-	AN23	-	2021-08-16	17:10	2021-08-16	17:45	0.58	15	Released
1	GRCD	702.0	4130.0	U	U	Angling - Jigging	AN24	IPF	17W	505720 7978481	-	AN24	-	2021-08-17	8:35	2021-08-17	8:55	0.33	20	Released
2	GRCD	441.0	1100.0	U	U	Angling - Jigging	AN24	IPF	17W	505720 7978481	-	AN24	-	2021-08-17	8:35	2021-08-17	8:55	0.33	20	Released
3	SHSC	363.0	610.0	U	U	Angling - Jigging	AN24	IPF	17W	505720 7978481	-	AN24	-	2021-08-17	8:35	2021-08-17	8:55	0.33	20	Released
4	SHSC	345.0	600.0	U	U	Angling - Jigging	AN24	IPF	17W	505720 7978481	-	AN24	-	2021-08-17	8:35	2021-08-17	8:55	0.33	20	Released
1	FHSC	294.0	280.0	U	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
2	ARSC	213.0	150.0	U	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
3	SHSC	265.0	270.0	U	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
4	FHSC	287.0	270.0	F	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
5	ARSC	212.0	150.0	U	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
6	SHSC	203.0	110.0	U	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
7	SHSC	296.0	380.0	U	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
8	SHSC	255.0	230.0	U	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
9	FHSC	247.0	180.0	F	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
10	FHSC	272.0	200.0	F	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
11	FHSC	260.0	210.0	F	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
12	FHSC	239.0	130.0	F	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
13	FHSC	264.0	200.0	M	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
14	FHSC	240.0	180.0	F	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
15	ARSC	185.0	100.0	U	A	Angling - Jigging	AN25	IPF	17W	505185 7977668	505159 797793	AN25A	AN25B	2021-08-17	9:03	2021-08-17	9:49	0.77	2	Released
1	GRCD	489.0	1340.0	U	U	Angling - Jigging	AN26	DPF	17W	503333 7976681	-	AN26	-	2021-08-17	10:35	2021-08-17	11:10	0.58	30	Mortality
2	GRCD	477.0	1410.0	U	U	Angling - Jigging	AN26	DPF	17W	503333 7976681	-	AN26	-	2021-08-17	10:35	2021-08-17	11:10	0.58	30	Released
3	SHSC	415.0	1010.0	U	U	Angling - Jigging	AN26	DPF	17W	503333 7976681	-	AN26	-	2021-08-17	10:35	2021-08-17	11:10	0.58	30	Released
4	SHSC	278.0	360.0	U	U	Angling - Jigging	AN26	DPF	17W	503333 7976681	-	AN26	-	2021-08-17	10:35	2021-08-17	11:10	0.58	30	Released
5	SHSC	384.0	720.0	U	U	Angling - Jigging	AN26	DPF	17W	503333 7976681	-	AN26	-	2021-08-17	10:35	2021-08-17	11:10	0.58	30	Released
6	SHSC	335.0	600.0	U	U	Angling - Jigging	AN26	DPF	17W	503333 7976681	-	AN26	-	2021-08-17	10:35	2021-08-17	11:10	0.58	30	Released
7	SHSC	390.0	970.0	U	U	Angling - Jigging	AN26	DPF	17W	503333 7976681	-	AN26	-	2021-08-17	10:35	2021-08-17	11:10	0.58	30	Released
1	SHSC	233.0	140.0	U	U	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
2	FHSC	318.0	370.0	M	A	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
3	ARSC	233.0	140.0	U	U	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
4	SHSC	264.0	260.0	U	U	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
5	FHSC	260.0	170.0	M	U	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
6	SHSC	247.0	220.0	U	U	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
7	SHSC	237.0	150.0	F	U	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
8	SHSC	233.0	130.0	U	U	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
9	SHSC	214.0	150.0	U	U	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
10	FHSC	211.0	100.0	M	A	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
11	FHSC	244.0	230.0	U	U	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
12	SHSC	223.0	210.0	U	U	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
13	FHSC	275.0	240.0	F	U	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
14	FHSC	326.0	330.0	F	A	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
15	FHSC	303.0	320.0	F	A	Angling - Jigging	AN27	IPF	17W	505147 7977215	505090 7976907	AN27A	AN27B	2021-08-17	13:29	2021-08-17	14:13	0.73	4	Released
1	FHSC	201.0	80.0	F	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
2	FHSC	295.0	300.0	M	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
3	FHSC	245.0	160.0	F	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
4	FHSC	275.0	180.0	F	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
5	FHSC	272.0	220.0	F	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
6	FHSC	313.0	320.0	M	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
7	FHSC	275.0	220.0	M	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
8	FHSC	283.0	170.0	M	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
9	FHSC	251.0	160.0	M	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
10	FHSC	240.0	120.0	M	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
11	FHSC	286.0	220.0	F	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
12	FHSC	262.0	170.0	M	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
13	FHSC	238.0	150.0	M	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
14	FHSC	256.0	140.0	F	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
15	FHSC	216.0	100.0	F	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
16	FHSC	213.0	90.0	M	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
17	FHSC	187.0	50.0	M	A	Angling - Jigging	AN28	DPF	17W	503139 7976515	503106 7976496	AN28A	AN28B	2021-08-17	15:06	2021-08-17	15:44	0.63	3	Released
1	FHSC	239.0	150.0	M	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
2	FHSC	223.0	100.0	F	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
3	FHSC	220.0	110.0	F	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
4	FHSC	229.0	130.0	F	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
5	FHSC	214.0	100.0	M	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
6	FHSC	236.0	150.0	F	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
7	FHSC	197.0	80.0	F	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
8	FHSC	231.0	140.0	F	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
9	FHSC	239.0	170.0	F	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
10	FHSC	194.0	80.0	F	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
11	FHSC	191.0	70.0	F	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
12	FHSC	204.0	90.0	M	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
13	FHSC	220.0	120.0	M	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
14	FHSC	198.0	70.0	M	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
15	FHSC	209.0	90.0	F	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
16	FHSC	200.0	80.0	M	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
17	FHSC	179.0	60.0	M	A	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
18	ARSC	128.0	30.0	U	U	Angling - Jigging	AN29	DPF	17W	503913 7976488	503907 7976600	AN29A	AN29B	2021-08-18	8:47	2021-08-18	9:44	0.95	1	Released
1	GRCD	404.0	780.0	U	A	Angling - Jigging	AN30	DPF	17W	503350 7976667	-	AN30	-	2021-08-18	11:00	2021-08-18	11:40	0.67	25	Released
2	GRCD	515.0	1800.0	U	A	Angling - Jigging	AN30	DPF	17W	503350 7976667	-	AN30	-	2021-08-18	11:00	2021-08-18	11:40	0.67	25	Released
3	GRCD	530.0	1960.0	U	A	Angling - Jigging	AN30	DPF	17W	503350 7976667	-	AN30	-	2021-08-18	11:00	2021-08-18	11:40	0.67	25	Released
4	GRCD	590.0	2510.0	U	A	Angling - Jigging	AN30	DPF	17W	503350 7976667	-	AN30	-	2021-08-18	11:00	2021-08-18	11:40	0.67	25	Released
5	SHSC	363.0	560.0	U	A	Angling - Jigging	AN30	DPF	17W	503350 7976667	-	AN30	-	2021-08-18	11:00	2021-08-18	11:40	0.67	25	Released
1	FHSC	261.0	160.0	F	A	Angling - Jigging	AN31	DPF	17W	504096 7976617	504006 7976600	AN31A	AN31B	2021-08-18	13:47	2021-08-18	14:33	0.77	1	Released
2	ARSC	122.0	10.0	U	U	Angling - Jigging	AN31	DPF	17W	504096 7976617	504006 7976600	AN31A	AN31B	2021-08-18	13:47	2021-08-18	14:33	0.77	1	Released
3	ARSC	131.0	30.0	U	U	Angling - Jigging	AN31	DPF	17W	504096 7976617	504006 7976600	AN31A	AN31B	2021-08-18	13:47	2021-08-18	14:33	0.77	1	Released
4	ARSC	127.0	30.0	U	U	Angling - Jigging	AN31	DPF	17W	504096 7976617	504006 7976600	AN31A	AN31B	2021-08-18	13:47	2021-08-18	14:33	0.77	1	Released
5	ARSC	145.0	20.0	U	U	Angling - Jigging	AN31	DPF	17W	504096 7976617	504006 7976600	AN31A	AN31B	2021-08-18	13:47	2021-08-18	14:33	0.77	1	Released
6	ARSC	120.0	20.0	U	U	Angling - Jigging	AN31	DPF	17W	504096 7976617	504006 7976600	AN31A	AN31B	2021-08-18	13:47	2021-08-18	14:33	0.77	1	Released
7	ARSC	124.0	50.0	U	U	Angling - Jigging	AN31	DPF	17W	504096 7976617	504006 7976600	AN31A	AN31B	2021-08-18	13:47	2021-08-18	14:33	0.77	1	Released
8	ARSC	128.0	20.0	U	U	Angling - Jigging	AN31	DPF	17W	504096 7976617	504006 7976600	AN31A	AN31B	2021-08-18	13:47	2021-08-18	14:33	0.77	1	Released
9	ARSC	147.0	40.0	F	A	Angling - Jigging	AN31	DPF	17W	504096 7976617	504006 7976600	AN31A	AN31B	2021-08-18	13:47	2021-08-18	14:33	0.77	1	Released
10	ARSC	129.0	30.0	U	U	Angling - Jigging	AN31	DPF	17W	504096 7976617	504006 7976600	AN31A	AN31B	2021-08-18	13:47	2021-08-18	14:33	0.77	1	Released
11	ARSC	139.0	20.0	U	U	Angling - Jigging	AN31	DPF	17W	504096 7976617	504006 7976600	AN31A	AN31B	2021-08-18	13:47	2021-08-18	14:33	0.77	1	Released
1	GRCD	469.0	1220.0	U	A	Angling - Jigging	AN32	DPF	17W	503218 7976603	-	AN32	-	2021-08-18	15:50	2021-08-18	16:15	0.42	15	Released
2	GRCD	522.0	1710.0	U	A	Angling - Jigging	AN32	DPF	17W	503218 7976603	-	AN32	-	2021-08-18	15:50	2021-08-18	16:15	0.42	15	Released
NFC	-	-	-	-	-	Fukui Trap	FT01	DPF	17W	502897 7976383		FT01		2021-08-07	10:42	2021-08-11	8:25	93.72	-	-
1	FHSC	210.0	110.0	M	A	Fukui Trap	FT02	IPF	17W	502660 7976305		FT02		2021-08-07	10:47	2021-08-11	8:32	93.75	-	Released
2	FHSC	191.0	80.0	U	U	Fukui Trap	FT02	IPF	17W	502660 7976305		FT02		2021-08-07	10:47	2021-08-11	8:32	93.75	-	Released
3	ARSC	128.0	20.0	U	U	Fukui Trap	FT02	IPF	17W	502660 7976305		FT02		2021-08-07	10:47	2021-08-11	8:32	93.75	-	Released
1	FHSC	125.0	15.0	U	U	Fukui Trap	FT03	IPF	17W	502268 7976436		FT03		2021-08-07	10:50	2021-08-11	8:38	93.80	-	Released
1	FHSC	195.0	75.0	M	A	Fukui Trap	FT04	IPF	17W	501468 7976188		FT04		2021-08-07	10:54	2021-08-11	8:45	93.85	-	Released
2	FHSC	171.0	47.0	F	A	Fukui Trap	FT04	IPF	17W	501468 7976188		FT04		2021-08-07	10:54	2021-08-11	8:45	93.85	-	Released
3	FHSC	262.0	150.0	M	A	Fukui Trap	FT04	IPF	17W	501468 7976188		FT04		2021-08-07	10:54	2021-08-11	8:45	93.85	-	Released
1	ARSC	111.0	14.0	U	U	Fukui Trap	FT05	DPF	17W	502725 7976384		FT05		2021-08-07	11:03	2021-08-11	8:28	93.42	-	Released
NFC	-	-	-	-	-	Fukui Trap	FT06	DPF	17W	503487 7976650		FT06		2021-08-11	8:54	2021-08-16	9:25	120.52	-	-
1	ARSC	164.0	50.0	U	U	Fukui Trap	FT07	DPF	17W	503435 7976594		FT07		2021-08-11	9:00	2021-08-16	9:35	120.58	-	Released
2	ARSC	124.0	30.0	U	U	Fukui Trap	FT07	DPF	17W	503435 7976594		FT07		2021-08-11	9:00	2021-08-16	9:35	120.58	-	Released
3	ARSC	112.0	25.0	U	U	Fukui Trap	FT07	DPF	17W	503435 7976594		FT07		2021-08-11	9:00	2021-08-16	9:35	120.58	-	Released
1	FHSC	271.0	190.0	F	A	Fukui Trap	FT08	DPF	17W	503476 7976593		FT08		2021-08-11	9:02	2021-08-11	9:30	120.47	-	Released
NFC	-	-	-	-	-	Fukui Trap	FT09	DPF	17W	503375 7976642		FT09		2021-08-11	9:09	2021-08-16	9:20	120.18	-	-
NFC	-	-	-	-	-	Fukui Trap	FT10	DPF	17W	503838 7976679		FT10		2021-08-11	9:16	2021-08-16	9:45	120.48	-	-
1	ARSC	221.0	150.0	U	U	Fukui Trap	FT11	DPF	17W	504051 7976629		FT11		2021-08-16	9:46	2021-08-18	15:25	53.65	-	Released
2	ARSC	181.0	100.0	U	U	Fukui Trap	FT11	DPF	17W	504051 7976629		FT11		2021-08-16	9:46	2021-08-18	15:25	53.65	-	Released
1	ARSC	110.0	60.0	U	U	Fukui Trap	FT12	DPF	17W	504154 7976587		FT12		2021-08-16	9:49	2021-08-18	15:23	53.57	-	Released
NFC	-	-	-	-	-	Fukui Trap	FT13	IPF	17W	504549 7976635		FT13		2021-08-16	9:53	2021-08-18	15:05	53.20	-	-
1	ARSC	156.0	80.0	U	U	Fukui Trap	FT14	IPF	17W	504611 7976704		FT14		2021-08-16	9:56	2021-08-18	15:10	53.23	-	Released
2	ARSC	137.0	50.0	U	U	Fukui Trap	FT14	IPF	17W	504611 7976704		FT14		2021-08-16	9:56	2021-08-18	15:10	53.23	-	Released
1	ARCH	610.0	2330.0	U	A	Gill Net	GN01	DPF	17W	502785 7976226	502818 7976314	GN01A	GN01B	2021-08-03	14:29	2021-08-03	16:14	1.75	1.75	Released
2	ARCH	620.0	2656.0	U	A	Gill Net	GN01	DPF	17W	502785 7976226	502818 7976314	GN01A	GN01B	2021-08-03	14:29	2021-08-03	16:14	1.75	1.75	Released
1	ARCH	339.0	375.0	U	U	Gill Net	GN02	DPF	17W	502982 7976335	502924 7976414	GN02A	GN02B	2021-08-03	15:03	2021-08-03	16:30	1.45	3.5	Released
2	ARCH	503.0	1227.0	U	A	Gill Net	GN02	DPF	17W	502982 7976335	502924 7976414	GN02A	GN02B	2021-08-03	15:03	2021-08-03	16:30	1.45	3.5	Released
3	ARCH	400.0	640.0	U	U	Gill Net	GN02	DPF	17W	502982 7976335	502924 7976414	GN02A	GN02B	2021-08-03	15:03	2021-08-03	16:30	1.45	3.5	Released
4	ARCH	489.0	1222.0	U	A	Gill Net	GN02	DPF	17W	502982 7976335	502924 7976414	GN02A	GN02B	2021-08-03	15:03	2021-08-03	16:30	1.45	3.5	Released
5	ARCH	540.0	1601.0	U	A	Gill Net	GN02	DPF	17W	502982 7976335	502924 7976414	GN02A	GN02B	2021-08-03	15:03	2021-08-03	16:30	1.45	3.5	Released
6	ARCH	703.0	2433.0	U	A	Gill Net	GN02	DPF	17W	502982 7976335	502924 7976414	GN02A	GN02B	2021-08-03	15:03	2021-08-03	16:30	1.45	3.5	Released
7	ARCH	440.0	825.0	U	A	Gill Net	GN02	DPF	17W	502982 7976335	502924 7976414	GN02A	GN02B	2021-08-03	15:03	2021-08-03	16:30	1.45	3.5	Released
8	ARCH	413.0	639.0	U	A	Gill Net	GN02	DPF	17W	502982 7976335	502924 7976414	GN02A	GN02B	2021-08-03	15:03	2021-08-03	16:30	1.45	3.5	Released
9	ARCH	494.0	1172.0	U	A	Gill Net	GN02	DPF	17W	502982 7976335	502924 7976414	GN02A	GN02B	2021-08-03	15:03	2021-08-03	16:30	1.45	3.5	Released
10	ARCH	355.0	412.0	U	U	Gill Net	GN02	DPF	17W	502982 7976335	502924 7976414	GN02A	GN02B	2021-08-03	15:03	2021-08-03	16:30	1.45	3.5	Released
11	ARCH	400.0	619.0	U	U	Gill Net	GN02	DPF	17W	502982 7976335	502924 7976414	GN02A	GN02B	2021-08-03	15:03	2021-08-03	16:30	1.45	3.5	Released
12	ARCH	486.0	1047.0	U	A	Gill Net	GN02	DPF	17W	502982 7976335	502924 7976414	GN02A	GN02B	2021-08-03	15:03	2021-08-03	16:30	1.45	3.5	Released
13	FHSC	170.0	40.0	M	J	Gill Net	GN02	DPF	17W	502982 7976335	502924 7976414	GN02A	GN02B	2021-08-03	15:03	2021-08-03	16:30	1.45	3.5	Released
1	ARCH	549.0	1348.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
2	ARCH	528.0	1374.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
3	ARCH	649.0	2139.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Mortality
4	ARCH	345.0	394.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Mortality
5	FHSC	236.0	159.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
6	FHSC	262.0	169.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
7	FHSC	181.0	56.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
8	FHSC	224.0	112.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
9	FHSC	220.0	105.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
10	FHSC	168.0	45.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
11	FHSC	189.0	77.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
12	FHSC	181.0	66.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
13	FHSC	181.0	66.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
14	SHSC	280.0	278.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
15	ARCH	479.0	822.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
16	FHSC	220.0	98.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
17	FHSC	262.0	159.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
18	FHSC	252.0	166.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
19	FHSC	260.0	168.0	-	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
20	FHSC	239.0	141.0	M	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
21	FHSC	231.0	139.0	U	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
22	FHSC	192.0	64.0	M	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
23	FHSC	262.0	179.0	M	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
24	FHSC	169.0	42.0	U	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
25	FHSC	185.0	54.0	M	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
26	SHSC	132.0	18.0	U	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
27	FHSC	190.0	150.0	U	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
28	FHSC	187.0	66.0	U	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
29	FHSC	191.0	61.0	M	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
30	ARSC	130.0	25.0	U	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
31	ARSC	125.0	25.0	U	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
32	FHSC	172.0	46.0	U	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
33	FHSC	167.0	39.0	U	-	Gill Net	GN03	DPF	17W	502890 7976249	502832 7976323	GN03A	GN03B	2021-08-06	11:28	2021-08-06	13:28	2.00	1.75	Released
1	ARCH	491.0	865.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
2	ARCH	379.0	467.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
3	ARCH	352.0	498.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
4	ARCH	391.0	576.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
5	ARCH	384.0	479.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
6	ARCH	533.0	1388.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
7	ARCH	486.0	1003.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
8	ARCH	451.0	742.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
9	ARCH	491.0	1030.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
10	ARCH	214.0	105.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
11	FHSC	262.0	189.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
12	FHSC	276.0	251.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
13	FHSC	271.0	195.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
14	FHSC	168.0	46.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
15	FHSC	271.0	176.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
16	FHSC	245.0	143.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
17	FHSC	246.0	191.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
18	FHSC	210.0	100.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
19	FHSC	249.0	167.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
20	FHSC	239.0	130.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
21	FHSC	281.0	262.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
22	FHSC	210.0	95.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
23	FHSC	243.0	158.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
24	FHSC	115.0	16.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
25	FHSC	161.0	29.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
26	FHSC	181.0	40.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
27	FHSC	222.0	98.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
28	FHSC	186.0	57.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
29	FHSC	171.0	60.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
30	ARCH	522.0	1192.0	U	A	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
31	ARCH	396.0	520.0	U	U	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
32	ARCH	535.0	1226.0	U	A	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
33	ARCH	337.0	339.0	U	U	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
34	ARCH	359.0	397.0	U	U	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
35	FHSC	224.0	99.0	M	A	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
36	FHSC	290.0	217.0	M	A	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
37	FHSC	249.0	132.0	M	A	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
38	FHSC	249.0	154.0	F	A	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
39	FHSC	180.0	46.0	U	U	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
40	FHSC	246.0	143.0	M	A	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
41	FHSC	189.0	60.0	U	U	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
42	FHSC	252.0	165.0	M	A	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
43	FHSC	210.0	71.0	U	U	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
44	FHSC	206.0	89.0	M	U	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
45	FHSC	262.0	228.0	U	A	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Released
46	ARCH	479.0	822.0	-	-	Gill Net	GN04	DPF	17W	503020 7976384	502970 7976461	GN04A	GN04B	2021-08-06	12:08	2021-08-06	16:08	4.00	3.5	Mortality
1	ARCH	464.0	1110.0	U	A	Gill Net	GN05	DPF	17W	504373 7976453	504337 7976543	GN05A	GN05B	2021-08-07	13:00	2021-08-07	14:58	1.97	1.75	Released
2	ARCH	294.0	310.0	U	U	Gill Net	GN05	DPF	17W	504373 7976453	504337 7976543	GN05A	GN05B	2021-08-07	13:00	2021-08-07	14:58	1.97	1.75	Released
3	ARCH	509.0	1220.0	U	A	Gill Net	GN05	DPF	17W	504373 7976453	504337 7976543	GN05A	GN05B	2021-08-07	13:00	2021-08-07	14:58	1.97	1.75	Mortality
4	ARCH	355.0	500.0	U	U	Gill Net	GN05	DPF	17W	504373 7976453	504337 7976543	GN05A	GN05B	2021-08-07	13:00	2021-08-07	14:58	1.97	1.75	Mortality
5	ARCH	321.0	370.0	U	J	Gill Net	GN05	DPF	17W	504373 7976453	504337 7976543	GN05A	GN05B	2021-08-07	13:00	2021-08-07	14:58	1.97	1.75	Mortality
6	FHSC	240.0	150.0	U	U	Gill Net	GN05	DPF	17W	504373 7976453	504337 7976543	GN05A	GN05B	2021-08-07	13:00	2021-08-07	14:58	1.97	1.75	Released
7	FHSC	206.0	120.0	U	U	Gill Net	GN05	DPF	17W	504373 7976453	504337 7976543	GN05A	GN05B	2021-08-07	13:00	2021-08-07	14:58	1.97	1.75	Released
1	ARCH	664.0	2510.0	-	A	Gill Net	GN06	IPF	17W	504515 7976457	504417 7976547	GN06A	GN06B	2021-08-07	13:12	2021-08-07	15:12	2.00	2	Released
2	ARCH	437.0	750.0	-	U	Gill Net	GN06	IPF	17W	504515 7976457	504417 7976547	GN06A	GN06B	2021-08-07	13:12	2021-08-07	15:12	2.00	2	Released
3	ARCH	142.0	27.2	-	-	Gill Net	GN06	IPF	17W	504515 7976457	504417 7976547	GN06A	GN06B	2021-08-07	13:12	2021-08-07	15:12	2.00	2	Released
4	ARCH	136.0	22.9	-	-	Gill Net	GN06	IPF	17W	504515 7976457	504417 7976547	GN06A	GN06B	2021-08-07	13:12	2021-08-07	15:12	2.00	2	Released
5	FHSC	117.0	11.1	-	-	Gill Net	GN06	IPF	17W	504515 7976457	504417 7976547	GN06A	GN06B	2021-08-07	13:12	2021-08-07	15:12	2.00	2	Released
6	FHSC	199.0	100.0	U	U	Gill Net	GN06	IPF	17W	504515 7976457	504417 7976547	GN06A	GN06B	2021-08-07	13:12	2021-08-07	15:12	2.00	2	Released
7	FHSC	195.0	90.0	U	U	Gill Net	GN06	IPF	17W	504515 7976457	504417 7976547	GN06A	GN06B	2021-08-07	13:12	2021-08-07	15:12	2.00	2	Released
8	FHSC	230.0	130.0	U	U	Gill Net	GN06	IPF	17W	504515 7976457	504417 7976547	GN06A	GN06B	2021-08-07	13:12	2021-08-07	15:12	2.00	2	Released
9	ARCH	145.0	24.5	-	-	Gill Net	GN06	IPF	17W	504515 7976457	504417 7976547	GN06A	GN06B	2021-08-07	13:12	2021-08-07	15:12	2.00	2	Mortality
1	ARCH	574.0	2400.0	U	A	Gill Net	GN07	DPF	17W	502960 7976323	502922 7976403	GN07A	GN07B	2021-08-08	8:13	2021-08-08	10:50	2.62	5.5	Released
2	ARCH	613.0	2770.0	U	A	Gill Net	GN07	DPF	17W	502960 7976323	502922 7976403	GN07A	GN07B	2021-08-08	8:13	2021-08-08	10:50	2.62	5.5	Released
3	ARCH	630.0	3490.0	U	A	Gill Net	GN07	DPF	17W	502960 7976323	502922 7976403	GN07A	GN07B	2021-08-08	8:13	2021-08-08	10:50	2.62	5.5	Released
4	FHSC	195.0	60.0	U	A	Gill Net	GN07	DPF	17W	502960 7976323	502922 7976403	GN07A	GN07B	2021-08-08	8:13	2021-08-08	10:50	2.62	5.5	Released
5	FHSC	168.0	60.0	U	A	Gill Net	GN07	DPF	17W	502960 7976323	502922 7976403	GN07A	GN07B	2021-08-08	8:13	2021-08-08	10:50	2.62	5.5	Released
6	FHSC	178.0	50.0	U	A	Gill Net	GN07	DPF	17W	502960 7976323	502922 7976403	GN07A	GN07B	2021-08-08	8:13	2021-08-08	10:50	2.62	5.5	Released
7	FHSC	175.0	50.0	U	A	Gill Net	GN07	DPF	17W	502960 7976323	502922 7976403	GN07A	GN07B	2021-08-08	8:13	2021-08-08	10:50	2.62	5.5	Released
8	FHSC	195.0	90.0	U	A	Gill Net	GN07	DPF	17W	502960 7976323	502922 7976403	GN07A	GN07B	2021-08-08	8:13	2021-08-08	10:50	2.62	5.5	Released
9	FHSC	305.0	320.0	U	A	Gill Net	GN07	DPF	17W	502960 7976323	502922 7976403	GN07A	GN07B	2021-08-08	8:13	2021-08-08	10:50	2.62	5.5	Released
10	FHSC	270.0	210.0	U	A	Gill Net	GN07	DPF	17W	502960 7976323	502922 7976403	GN07A	GN07B	2021-08-08	8:13	2021-08-08	10:50	2.62	5.5	Released
11	FHSC	257.0	195.0	U	A	Gill Net	GN07	DPF	17W	502960 7976323	502922 7976403	GN07A	GN07B	2021-08-08	8:13	2021-08-08	10:50	2.62	5.5	Released
12	FHSC	344.0	352.0	F	A	Gill Net	GN07	DPF	17W	502960 7976323	502922 7976403	GN07A	GN07B	2021-08-08	8:13	2021-08-08	10:50	2.62	5.5	Euthanized
1	ARCH	645.0	2730.0	U	A	Gill Net	GN08	DPF	17W	503099 7976436	503061 7976511	GN08A	GN08B	2021-08-09	7:32	2021-08-09	9:00	1.47	6.75	Released
2	ARCH	557.0	1980.0	U	A	Gill Net	GN08	DPF	17W	503099 7976436	503061 7976511	GN08A	GN08B	2021-08-09	7:32	2021-08-09	9:00	1.47	6.75	Released
3	ARCH	474.0	1170.0	U	A	Gill Net	GN08	DPF	17W	503099 7976436	503061 7976511	GN08A	GN08B	2021-08-09	7:32	2021-08-09	9:00	1.47	6.75	Mortality
4	ARCH	403.0	610.0	U	U	Gill Net	GN08	DPF	17W	503099 7976436	503061 7976511	GN08A	GN08B	2021-08-09	7:32	2021-08-09	9:00	1.47	6.75	Released
5	SHSC	394.0	790.0	U	A	Gill Net	GN08	DPF	17W	503099 7976436	503061 7976511	GN08A	GN08B	2021-08-09	7:32	2021-08-09	9:00	1.47	6.75	Released
6	SHSC	244.0	180.0	U	A	Gill Net	GN08	DPF	17W	503099 7976436	503061 7976511	GN08A	GN08B	2021-08-09	7:32	2021-08-09	9:00	1.47	6.75	Released
7	FHSC	194.0	45.0	U	A	Gill Net	GN08	DPF	17W	503099 7976436	503061 7976511	GN08A	GN08B	2021-08-09	7:32	2021-08-09	9:00	1.47	6.75	Released
8	FHSC	177.0	30.0	U	A	Gill Net	GN08	DPF	17W	503099 7976436	503061 7976511	GN08A	GN08B	2021-08-09	7:32	2021-08-09	9:00	1.47	6.75	Released
9	FHSC	200.0	80.0	U	A	Gill Net	GN08	DPF	17W	503099 7976436	503061 7976511	GN08A	GN08B	2021-08-09	7:32	2021-08-09	9:00	1.47	6.75	Released
10	FHSC	186.0	80.0	U	A	Gill Net	GN08	DPF	17W	503099 7976436	503061 7976511	GN08A	GN08B	2021-08-09	7:32	2021-08-09	9:00	1.47	6.75	Released
11	FHSC	298.0	124.0	F	A	Gill Net	GN08	DPF	17W	503099 7976436	503061 7976511	GN08A	GN08B	2021-08-09	7:32	2021-08-09	9:00	1.47	6.75	Euthanized
1	ARCH	584.0	2510.0	U	A	Gill Net	GN09	IPF	17W	502602 7976235	502624 7976319	GN09A	GN09B	2021-08-10	7:30	2021-08-10	8:40	1.17	2	Released
2	ARCH	398.0	660.0	U	A	Gill Net	GN09	IPF	17W	502602 7976235	502624 7976319	GN09A	GN09B	2021-08-10	7:30	2021-08-10	8:40	1.17	2	Released
3	ARCH	465.0	1110.0	F	A	Gill Net	GN09	IPF	17W	502602 7976235	502624 7976319	GN09A	GN09B	2021-08-10	7:30	2021-08-10	8:40	1.17	2	Mortality
1	ARCH	314.0	340.0	U	U	Gill Net	GN10	IPF	17W	504760 7976619	504755 7976706	GN10A	GN10B	2021-08-11	12:09	2021-08-11	16:09	4.00	2.5	Released
2	ARCH	319.0	390.0	U	U	Gill Net	GN10	IPF	17W	504760 7976619	504755 7976706	GN10A	GN10B	2021-08-11	12:09	2021-08-11	16:09	4.00	2.5	Released
3	ARCH	427.0	760.0	U	A	Gill Net	GN10	IPF	17W	504760 7976619	504755 7976706	GN10A	GN10B	2021-08-11	12:09	2021-08-11	16:09	4.00	2.5	Released
4	ARCH	384.0	620.0	U	A	Gill Net	GN10	IPF	17W	504760 7976619	504755 7976706	GN10A	GN10B	2021-08-11	12:09	2021-08-11	16:09	4.00	2.5	Released
5	ARCH	470.0	1110.0	U	A	Gill Net	GN10	IPF	17W	504760 7976619	504755 7976706	GN10A	GN10B	2021-08-11	12:09	2021-08-11	16:09	4.00	2.5	Released
6	ARCH	379.0	-	U	A	Gill Net	GN10	IPF	17W	504760 7976619	504755 7976706	GN10A	GN10B	2021-08-11	12:09	2021-08-11	16:09	4.00	2.5	Released
7	ARCH	559.0	-	U	A	Gill Net	GN10	IPF	17W	504760 7976619	504755 7976706	GN10A	GN10B	2021-08-11	12:09	2021-08-11	16:09	4.00	2.5	Released
8	ARCH	750.0	-	U	A	Gill Net	GN10	IPF	17W	504760 7976619	504755 7976706	GN10A	GN10B	2021-08-11	12:09	2021-08-11	16:09	4.00	2.5	Released
9	ARCH	485.0	-	U	A	Gill Net	GN10	IPF	17W	504760 7976619	504755 7976706	GN10A	GN10B	2021-08-11	12:09	2021-08-11	16:09	4.00	2.5	Released
10	ARCH	439.0	-	U	A	Gill Net	GN10	IPF	17W	504760 7976619	504755 7976706	GN10A	GN10B	2021-08-11	12:09	2021-08-11	16:09	4.00	2.5	Mortality
1	FHSC	234.0	120.0	F	A	Gill Net	GN11	DPF	17W	503366 7976479	503426 7976550	GN11A	GN11B	2021-08-14	14:03	2021-08-14	16:03	2.00	1.5	Released
2	FHSC	188.0	50.0	F	A	Gill Net	GN11	DPF	17W	503366 7976479	503426 7976550	GN11A	GN11B	2021-08-14	14:03	2021-08-14	16:03	2.00	1.5	Released
1	ARCH	375.0	470.0	U	-	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
2	ARCH	243.0	120.0	U	-	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
3	ARCH	305.0	270.0	U	-	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
4	ARCH	484.0	1250.0	U	A	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
5	ARCH	501.0	1440.0	U	A	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
6	ARCH	533.0	1990.0	U	A	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
7	ARCH	433.0	870.0	U	A	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Mortality
8	ARCH	510.0	1270.0	U	A	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
9	ARCH	615.0	2490.0	U	A	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
10	ARCH	410.0	570.0	U	A	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
11	ARCH	289.0	150.0	U	-	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
12	ARCH	333.0	410.0	U	-	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
13	ARCH	271.0	240.0	U	-	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
14	ARCH	299.0	270.0	U	-	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
15	ARCH	280.0	220.0	U	-	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
16	ARCH	291.0	280.0	U	-	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
17	ARCH	294.0	260.0	U	-	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
18	ARCH	255.0	190.0	U	-	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
19	ARCH	128.0	10.0	U	-	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Released
20	ARCH	470.0	1020.0	U	-	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Mortality
21	ARCH	290.0	270.0	U	A	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Mortality
22	ARCH	254.0	200.0	U	-	Gill Net	GN12	REF - T	17X	522147 7995861	522054 7995887	GN12A	GN12B	2021-08-15	10:45	2021-08-15	12:45	2.00	1.5	Mortality
1	ARCH	392.0	500.0	U	A	Gill Net	GN13	REF - T	17X	522182 7996077	522089 7996100	GN13A	GN13B	2021-08-15	11:00	2021-08-15	13:00	2.00	1.5	Released
2	ARCH	281.0	230.0	U	-	Gill Net	GN13	REF - T	17X	522182 7996077	522089 7996100	GN13A	GN13B	2021-08-15	11:00	2021-08-15	13:00	2.00	1.5	Released
3	ARCH	520.0	1590.0	U	A	Gill Net	GN13	REF - T	17X	522182 7996077	522089 7996100	GN13A	GN13B	2021-08-15	11:00	2021-08-15	13:00	2.00	1.5	Released
4	ARCH	575.0	2300.0	U	A	Gill Net	GN13	REF - T	17X	522182 7996077	522089 7996100	GN13A	GN13B	2021-08-15	11:00	2021-08-15	13:00	2.00	1.5	Released
5	ARCH	260.0	200.0	U	-	Gill Net	GN13	REF - T	17X	522182 7996077	522089 7996100	GN13A	GN13B	2021-08-15	11:00	2021-08-15	13:00	2.00	1.5	Released
6	FHSC	-	224.0	F	A	Gill Net	GN13	REF - T	17X	522182 7996077	522089 7996100	GN13A	GN13B	2021-08-15	11:00	2021-08-15	13:00	2.00	1.5	Euthanized
7	FHSC	-	234.0	F	A	Gill Net	GN13	REF - T	17X	522182 7996077	522089 7996100	GN13A	GN13B	2021-08-15	11:00	2021-08-15	13:00	2.00	1.5	Euthanized
1	ARCH	462.0	1170.0	U	-	Gill Net	GN14	REF - T	17X	523116 7996895	523021 7996932	GN14A	GN14B	2021-08-15	14:20	2021-08-15	15:05	0.75	2.65	Released
2	ARCH	402.0	520.0	U	-	Gill Net	GN14	REF - T	17X	523116 7996895	523021 7996932	GN14A	GN14B	2021-08-15	14:20	2021-08-15	15:05	0.75	2.65	Released
3	ARCH	375.0	580.0	U	-	Gill Net	GN14	REF - T	17X	523116 7996895	523021 7996932	GN14A	GN14B	2021-08-15	14:20	2021-08-15	15:05	0.75	2.65	Released
4	ARCH	400.0	710.0	U	-	Gill Net	GN14	REF - T	17X	523116 7996895	523021 7996932	GN14A	GN14B	2021-08-15	14:20	2021-08-15	15:05	0.75	2.65	Released
5	ARCH	418.0	750.0	U	-	Gill Net	GN14	REF - T	17X	523116 7996895	523021 7996932	GN14A	GN14B	2021-08-15	14:20	2021-08-15	15:05	0.75	2.65	Released
6	ARCH	475.0	1310.0	U	-	Gill Net	GN14	REF - T	17X	523116 7996895	523021 7996932	GN14A	GN14B	2021-08-15	14:20	2021-08-15	15:05	0.75	2.65	Released
7	ARCH	336.0	410.0	U	-	Gill Net	GN14	REF - T	17X	523116 7996895	523021 7996932	GN14A	GN14B	2021-08-15	14:20	2021-08-15	15:05	0.75	2.65	Released
8	ARCH	434.0	950.0	U	-	Gill Net	GN14	REF - T	17X	523116 7996895	523021 7996932	GN14A	GN14B	2021-08-15	14:20	2021-08-15	15:05	0.75	2.65	Released
9	ARCH	521.0	760.0	U	-	Gill Net	GN14	REF - T	17X	523116 7996895	523021 7996932	GN14A	GN14B	2021-08-15	14:20	2021-08-15	15:05	0.75	2.65	Released
10	ARCH	285.0	280.0	U	-	Gill Net	GN14	REF - T	17X	523116 7996895	523021 7996932	GN14A	GN14B	2021-08-15	14:20	2021-08-15	15:05	0.75	2.65	Released
11	ARCH	442.0	920.0	U	-	Gill Net	GN14	REF - T	17X	523116 7996895	523021 7996932	GN14A	GN14B	2021-08-15	14:20	2021-08-15	15:05	0.75	2.65	Released
12	ARCH	409.0	690.0	U	-	Gill Net	GN14	REF - T	17X	523116 7996895	523021 7996932	GN14A	GN14B	2021-08-15	14:20	2021-08-15	15:05	0.75	2.65	Released
13	ARCH	314.0	300.0	U	-	Gill Net	GN14	REF - T	17X	523116 7996895	523021 7996932	GN14A	GN14B	2021-08-15	14:20	2021-08-15	15:05	0.75	2.65	Released
1	ARCH	248.0	160.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
2	ARCH	374.0	490.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
3	ARCH	416.0	740.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
4	ARCH	370.0	700.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
5	ARCH	490.0	1590.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
6	ARCH	409.0	800.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
7	ARCH	487.0	1420.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
8	ARCH	428.0	910.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
9	ARCH	365.0	500.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
10	ARCH	402.0	740.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
11	ARCH	430.0	930.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
12	ARCH	422.0	760.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
13	ARCH	334.0	410.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
14	ARCH	348.0	560.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
15	ARCH	385.0	640.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
16	ARCH	305.0	350.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
17	ARCH	333.0	390.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
18	ARCH	404.0	800.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Released
19	ARCH	460.0	1030.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Mortality
20	ARCH	421.0	890.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Mortality
21	ARCH	351.0	510.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Mortality
22	ARCH	304.0	270.0	U	U	Gill Net	GN15	REF - T	17X	523133 7996676	523068 7996739	GN15A	GN15B	2021-08-15	14:35	2021-08-15	15:35	1.00	0.1	Mortality
1	ARCH	472.0	1070.0	U	A	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
2	SHSC	249.0	180.0	U	U	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
3	FHSC	223.0	180.0	F	A	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
4	ARCH	737.0	4430.0	U	A	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
5	ARCH	440.0	960.0	U	A	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
6	ARCH	352.0	490.0	U	U	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
7	FHSC	238.0	150.0	M	A	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
8	FHSC	187.0	70.0	F	A	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
9	FHSC	235.0	150.0	M	A	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
10	FHSC	210.0	100.0	M	A	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
11	FHSC	248.0	190.0	M	A	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
12	FHSC	243.0	200.0	M	A	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
13	FHSC	245.0	190.0	F	A	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
14	FHSC	275.0	270.0	F	A	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
15	FHSC	301.0	350.0	F	A	Gill Net	GN16	IPF	17W	505148 7976959	505061 7976967	GN16A	GN16B	2021-08-16	9:00	2021-08-16	12:15	3.25	5.25	Released
1	ARCH	452.0	920.0	U	A	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
2	ARCH	335.0	390.0	U	U	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
3	ARCH	289.0	270.0	U	U	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
4	ARCH	343.0	510.0	U	U	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
5	ARCH	434.0	810.0	U	A	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
6	FHSC	246.0	200.0	M	A	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
7	FHSC	247.0	210.0	M	A	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
8	FHSC	234.0	160.0	F	A	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
9	FHSC	180.0	100.0	F	A	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
10	FHSC	236.0	170.0	M	A	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
11	FHSC	298.0	360.0	F	A	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
12	FHSC	256.0	210.0	F	A	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
13	FHSC	240.0	160.0	F	A	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
14	FHSC	217.0	130.0	F	A	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
15	FHSC	186.0	80.0	F	A	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
16	FHSC	189.0	80.0	M	A	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
17	FHSC	210.0	120.0	F	A	Gill Net	GN17	IPF	17W	505080 7979223	505080 7977223	GN17A	GN17B	2021-08-16	9:20	2021-08-16	12:25	3.08	5.5	Released
1	ARCH	187.0	50.0	-	-	Gill Net	GN18	DPF	17W	504274 7976478	504304 7976549	GN18A	GN18B	2021-08-17	8:10	2021-08-17	12:10	4.17	2.5	Released
2	ARCH	340.0	470.0	-	-	Gill Net	GN18	DPF	17W	504274 7976478	504304 7976549	GN18A	GN18B	2021-08-17	8:10	2021-08-17	12:10	4.17	2.5	Released
1	ARCH	691.0	4990.0	U	A	Gill Net	GN19	IPF	17W	504573 7976595	504541 7976668	GN19A	GN19B	2021-08-17	8:25	2021-08-17	12:25	4.00	-	Released
2	ARCH	594.0	2500.0	U	U	Gill Net	GN19	IPF	17W	504573 7976595	504541 7976668	GN19A	GN19B	2021-08-17	8:25	2021-08-17	12:25	4.00	-	Released
3	ARCH	627.0	3280.0	U	U	Gill Net	GN19	IPF	17W	504573 7976595	504541 7976668	GN19A	GN19B	2021-08-17	8:25	2021-08-17	12:25	4.00	-	Released
4	ARCH	290.0	300.0	U	U	Gill Net	GN19	IPF	17W	504573 7976595	504541 7976668	GN19A	GN19B	2021-08-17	8:25	2021-08-17	12:25	4.00	-	Released
5	FHSC	291.0	280.0	F	A	Gill Net	GN19	IPF	17W	504573 7976595	504541 7976668	GN19A	GN19B	2021-08-17	8:25	2021-08-17	12:25	4.00	-	Released
6	FHSC	216.0	80.0	M	A	Gill Net	GN19	IPF	17W	504573 7976595	504541 7976668	GN19A	GN19B	2021-08-17	8:25	2021-08-17	12:25	4.00	-	Released
7	FHSC	234.0	100.0	F	A	Gill Net	GN19	IPF	17W	504573 7976595	504541 7976668	GN19A	GN19B	2021-08-17	8:25	2021-08-17	12:25	4.00	-	Released
8	FHSC	239.0	120.0	F	A	Gill Net	GN19	IPF	17W	504573 7976595	504541 7976668	GN19A	GN19B	2021-08-17	8:25	2021-08-17	12:25	4.00	-	Released
9	FHSC	219.0	100.0	F	A	Gill Net	GN19	IPF	17W	504573 7976595	504541 7976668	GN19A	GN19B	2021-08-17	8:25	2021-08-17	12:25	4.00	-	Released
10	FHSC	189.0	60.0	M	A	Gill Net	GN19	IPF	17W	504573 7976595	504541 7976668	GN19A	GN19B	2021-08-17	8:25	2021-08-17	12:25	4.00	-	Released
1	ARCH	303.0	290.0	U	U	Gill Net	GN20	IPF	17W	505191 7977496	505111 7977501	GN20A	GN20B	2021-08-17	12:50	2021-08-17	16:35	3.75	8	Released
2	ARCH	387.0	610.0	U	U	Gill Net	GN20	IPF	17W	505191 7977497	505111 7977502	GN20A	GN20B	2021-08-17	12:50	2021-08-17	16:35	3.75	8	Mortality
3	SHSC	323.0	410.0	U	A	Gill Net	GN20	IPF	17W	505191 7977498	505111 7977503	GN20A	GN20B	2021-08-17	12:50	2021-08-17	16:35	3.75	8	Released
4	SHSC	269.0	220.0	U	A	Gill Net	GN20	IPF	17W	505191 7977499	505111 7977504	GN20A	GN20B	2021-08-17	12:50	2021-08-17	16:35	3.75	8	Released
5	FHSC	249.0	140.0	F	A	Gill Net	GN20	IPF	17W	505191 7977500	505111 7977505	GN20A	GN20B	2021-08-17	12:50	2021-08-17	16:35	3.75	8	Released
6	FHSC	345.0	160.0	F	A	Gill Net	GN20	IPF	17W	505191 7977501	505111 7977506	GN20A	GN20B	2021-08-17	12:50	2021-08-17	16:35	3.75	8	Released
7	FHSC	218.0	90.0	F	A	Gill Net	GN20	IPF	17W	505191 7977502	505111 7977507	GN20A	GN20B	2021-08-17	12:50	2021-08-17	16:35	3.75	8	Released
8	FHSC	191.0	50.0	M	A	Gill Net	GN20	IPF	17W	505191 7977503	505111 7977508	GN20A	GN20B	2021-08-17	12:50	2021-08-17	16:35	3.75	8	Released
9	FHSC	194.0	50.0	F	A	Gill Net	GN20	IPF	17W	505191 7977504	505111 7977509	GN20A	GN20B	2021-08-17	12:50	2021-08-17	16:35	3.75	8	Released
10	ARSC	216.0	150.0	U	A	Gill Net	GN20	IPF	17W	505191 7977505	505111 7977510	GN20A	GN20B	2021-08-17	12:50	2021-08-17	16:35	3.75	8	Released
11	GRCD	449.0	890.0	U	A	Gill Net	GN20	IPF	17W	505191 7977506	505111 7977511	GN20A	GN20B	2021-08-17	12:50	2021-08-17	16:35	3.75	8	Released
1	ARCH	283.0	270.0	-	-	Gill Net	GN21	IPF	17W	505264 7977779	505201 7977808	GN21A	GN21B	2021-08-17	12:43	2021-08-17	16:20	3.62	8	Released
2	ARCH	226.0	130.0	-	-	Gill Net	GN21	IPF	17W	505264 7977779	505201 7977808	GN21A	GN21B	2021-08-17	12:43	2021-08-17	16:20	3.62	8	Released
3	ARCH	380.0	540.0	-	-	Gill Net	GN21	IPF	17W	505264 7977779	505201 7977808	GN21A	GN21B	2021-08-17	12:43	2021-08-17	16:20	3.62	8	Released
4	ARCH	332.0	430.0	-	-	Gill Net	GN21	IPF	17W	505264 7977779	505201 7977808	GN21A	GN21B	2021-08-17	12:43	2021-08-17	16:20	3.62	8	Mortality
5	SHSC	237.0	150.0	-	-	Gill Net	GN21	IPF	17W	505264 7977779	505201 7977808	GN21A	GN21B	2021-08-17	12:43	2021-08-17	16:20	3.62	8	Released
6	FHSC	251.0	230.0	F	A	Gill Net	GN21	IPF	17W	505264 7977779	505201 7977808	GN21A	GN21B	2021-08-17	12:43	2021-08-17	16:20	3.62	8	Released
7	FHSC	247.0	190.0	F	A	Gill Net	GN21	IPF	17W	505264 7977779	505201 7977808	GN21A	GN21B	2021-08-17	12:43	2021-08-17	16:20	3.62	8	Released
8	SHSC	242.0	230.0	U	A	Gill Net	GN21	IPF	17W	505264 7977779	505201 7977808	GN21A	GN21B	2021-08-17	12:43	2021-08-17	16:20	3.62	8	Released
9	ARSC	89.0	20.0	U	U	Gill Net	GN21	IPF	17W	505264 7977779	505201 7977808	GN21A	GN21B	2021-08-17	12:43	2021-08-17	16:20	3.62	8	Released
1	ARCH	228.0	110.0	U	U	Gill Net	GN22	IPF	17W	502249 7976266	502215 7976347	GN22A	GN22B	2021-08-18	8:15	2021-08-18	12:08	3.88	-	Released
1	ARCH	470.0	1250.0	U	U	Gill Net	GN23	IPF	17W	502432 7976273	502457 7976361	GN23A	GN23B	2021-08-18	8:30	2021-08-18	12:15	3.75	1.5	Mortality
2	ARCH	354.0	450.0	U	U	Gill Net	GN23	IPF	17W	502432 7976273	502457 7976361	GN23A	GN23B	2021-08-18	8:30	2021-08-18	12:15	3.75	1.5	Released
3	ARCH	465.0	1110.0	U	U	Gill Net	GN23	IPF	17W	502432 7976273	502457 7976361	GN23A	GN23B	2021-08-18	8:30	2021-08-18	12:15	3.75	1.5	Released
1	ARCH	528.0	1880.0	U	A	Gill Net	GN24	DPF	17W	503721 7976365	503721 7976453	GN24A	GN24B	2021-08-18	13:20	2021-08-18	16:40	3.33	1.5	Released
2	FHSC	235.0	150.0	F	A	Gill Net	GN24	DPF	17W	503721 7976365	503721 7976453	GN24A	GN24B	2021-08-18	13:20	2021-08-18	16:40	3.33	1.5	Released
3	FHSC	230.0	140.0	F	A	Gill Net	GN24	DPF	17W	503721 7976365	503721 7976453	GN24A	GN24B	2021-08-18	13:20	2021-08-18	16:40	3.33	1.5	Released
4	FHSC	124.0	120.0	F	A	Gill Net	GN24	DPF	17W	503721 7976365	503721 7976453	GN24A	GN24B	2021-08-18	13:20	2021-08-18	16:40	3.33	1.5	Released
5	FHSC	200.0	80.0	F	A	Gill Net	GN24	DPF	17W	503721 7976365	503721 7976453	GN24A	GN24B	2021-08-18	13:20	2021-08-18	16:40	3.33	1.5	Released
6	FHSC	229.0	120.0	F	A	Gill Net	GN24	DPF	17W	503721 7976365	503721 7976453	GN24A	GN24B	2021-08-18	13:20	2021-08-18	16:40	3.33	1.5	Released
7	FHSC	160.0	130.0	F	A	Gill Net	GN24	DPF	17W	503721 7976365	503721 7976453	GN24A	GN24B	2021-08-18	13:20	2021-08-18	16:40	3.33	1.5	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
8	FHSC	206.0	120.0	F	A	Gill Net	GN24	DPF	17W	503721 7976365	503721 7976453	GN24A	GN24B	2021-08-18	13:20	2021-08-18	16:40	3.33	1.5	Released
9	FHSC	188.0	80.0	F	A	Gill Net	GN24	DPF	17W	503721 7976365	503721 7976453	GN24A	GN24B	2021-08-18	13:20	2021-08-18	16:40	3.33	1.5	Released
10	ARSC	135.0	50.0	U	U	Gill Net	GN24	DPF	17W	503721 7976365	503721 7976453	GN24A	GN24B	2021-08-18	13:20	2021-08-18	16:40	3.33	1.5	Released
11	FHSC	148.0	50.0	F	A	Gill Net	GN24	DPF	17W	503721 7976365	503721 7976453	GN24A	GN24B	2021-08-18	13:20	2021-08-18	16:40	3.33	1.5	Released
12	FHSC	159.0	60.0	F	A	Gill Net	GN24	DPF	17W	503721 7976365	503721 7976453	GN24A	GN24B	2021-08-18	13:20	2021-08-18	16:40	3.33	1.5	Released
1	ARCH	191.0	110.0	U	U	Gill Net	GN25	DPF	17W	504141 7976594	504230 7976604	GN25A	GN25B	2021-08-18	13:44	2021-08-18	17:20	3.60	2	Released
2	ARCH	430.0	750.0	U	A	Gill Net	GN25	DPF	17W	504141 7976594	504230 7976604	GN25A	GN25B	2021-08-18	13:44	2021-08-18	17:20	3.60	2	Released
3	ARCH	282.0	260.0	U		Gill Net	GN25	DPF	17W	504141 7976594	504230 7976604	GN25A	GN25B	2021-08-18	13:44	2021-08-18	17:20	3.60	2	Mortality
4	ARCH	285.0	260.0	U	U	Gill Net	GN25	DPF	17W	504141 7976594	504230 7976604	GN25A	GN25B	2021-08-18	13:44	2021-08-18	17:20	3.60	2	Mortality
5	ARCH	266.0	160.0	U	U	Gill Net	GN25	DPF	17W	504141 7976594	504230 7976604	GN25A	GN25B	2021-08-18	13:44	2021-08-18	17:20	3.60	2	Mortality
6	ARCH	490.0	1240.0	U	A	Gill Net	GN25	DPF	17W	504141 7976594	504230 7976604	GN25A	GN25B	2021-08-18	13:44	2021-08-18	17:20	3.60	2	Mortality
7	ARCH	324.0	350.0	U	A	Gill Net	GN25	DPF	17W	504141 7976594	504230 7976604	GN25A	GN25B	2021-08-18	13:44	2021-08-18	17:20	3.60	2	Released
8	FHSC	195.0	90.0	M	A	Gill Net	GN25	DPF	17W	504141 7976594	504230 7976604	GN25A	GN25B	2021-08-18	13:44	2021-08-18	17:20	3.60	2	Released
9	FHSC	179.0	80.0	F	A	Gill Net	GN25	DPF	17W	504141 7976594	504230 7976604	GN25A	GN25B	2021-08-18	13:44	2021-08-18	17:20	3.60	2	Released
10	FHSC	212.0	110.0	M	A	Gill Net	GN25	DPF	17W	504141 7976594	504230 7976604	GN25A	GN25B	2021-08-18	13:44	2021-08-18	17:20	3.60	2	Released
11	FHSC	223.0	110.0	M	A	Gill Net	GN25	DPF	17W	504141 7976594	504230 7976604	GN25A	GN25B	2021-08-18	13:44	2021-08-18	17:20	3.60	2	Released
12	ARCH	615.0	3220.0	U	U	Gill Net	GN25	DPF	17W	504141 7976594	504230 7976604	GN25A	GN25B	2021-08-18	13:44	2021-08-18	17:20	3.60	2	Released
13	ARCH	398.0	710.0	-	-	Gill Net	GN25	DPF	17W	504141 7976594	504230 7976604	GN25A	GN25B	2021-08-18	13:44	2021-08-18	17:20	3.60	2	Mortality
14	ARSC	108.0	10.0	U	U	Gill Net	GN25	DPF	17W	504141 7976594	504230 7976604	GN25A	GN25B	2021-08-18	13:44	2021-08-18	17:20	3.60	2	Released
1	FHSC	280.0	250.0	M	A	Hoop Net	HN01	DPF	17W	503021 7976416	503017 7976420	157	-	2021-08-02	10:45	2021-08-04	14:50	52.08	1	Released
2	FHSC	247.0	184.0	M	A	Hoop Net	HN01	DPF	17W	503021 7976416	503017 7976420	157	-	2021-08-02	10:45	2021-08-04	14:50	52.08	1	Released
3	FHSC	293.0	204.0	M	A	Hoop Net	HN01	DPF	17W	503021 7976416	503017 7976420	157	-	2021-08-02	10:45	2021-08-04	14:50	52.08	1	Released
1	FHSC	189.0	72.0	U	U	Hoop Net	HN02	DPF	17W	503145 7976480	503137 7976480	HN02	-	2021-08-02	11:03	2021-08-07	12:34	121.52	1	Released
1	FHSC	157.0	40.0	M	U	Hoop Net	HN03	DPF	17W	503003 7976400	-	HN03	-	2021-08-08	8:30	2021-08-11	10:40	74.17	0.9	Released
2	FHSC	160.0	40.0	F	U	Hoop Net	HN03	DPF	17W	503003 7976400	-	HN03	-	2021-08-08	8:30	2021-08-11	10:40	74.17	0.9	Released
3	FHSC	138.0	10.0	U	U	Hoop Net	HN03	DPF	17W	503003 7976400	-	HN03	-	2021-08-08	8:30	2021-08-11	10:40	74.17	0.9	Released
1	FHSC	248.0	150.0	M	A	Hoop Net	HN04	DPF	17W	504028 7976600	-	-	-	2021-08-08	8:40	2021-08-11	12:13	75.55	0.95	Released
2	FHSC	178.0	50.0	U	U	Hoop Net	HN04	DPF	17W	504028 7976600	-	-	-	2021-08-08	8:40	2021-08-11	12:13	75.55	0.95	Released
3	FHSC	145.0	45.0	U	U	Hoop Net	HN04	DPF	17W	504028 7976600	-	-	-	2021-08-08	8:40	2021-08-11	12:13	75.55	0.95	Released
4	FHSC	166.0	50.0	U	U	Hoop Net	HN04	DPF	17W	504028 7976600	-	-	-	2021-08-08	8:40	2021-08-11	12:13	75.55	0.95	Released
5	FHSC	186.0	60.0	M	A	Hoop Net	HN04	DPF	17W	504028 7976600	-	-	-	2021-08-08	8:40	2021-08-11	12:13	75.55	0.95	Released
NFC	-	-	-	-	-	Hoop Net	HN05	DPF	17W	504136 7976559	-	HN05	-	2021-08-11	11:31	2021-08-16	14:00	122.48	1.25	-
NFC	-	-	-	-	-	Hoop Net	HN06	DPF	17W	504068 7976564	-	HN06	-	2021-08-11	11:51	2021-08-16	14:15	122.40	0.9	-
NFC	-	-	-	-	-	Hoop Net	HN07	IPF	17W	504563 7976634	-	-	-	2021-08-16	14:35	2021-08-16	15:00	48.42	1	-
NFC	-	-	-	-	-	Long Line	LL01	IPF	17W	502570 7976487	502680 7976630	LL01A	LL01B	2021-08-09	16:00	2021-08-10	7:30	15.50	-	-
NFC	-	-	-	-	-	Long Line	LL02	IPF	17W	504720 7976812	504740 7977008	LL02A	LL02B	2021-08-10	8:15	2021-08-11	12:13	27.97	-	-
NFC	-	-	-	-	-	Long Line	LL03	IPF	17W	502193 7976782	502359 7976919	LL03A	LL03	2021-08-11	14:30	2021-08-12	8:00	17.50	-	-
NFC	-	-	-	-	-	Trawling	TR01	IPF	17W	502222 7977862	501962 7977448	TR01A	TR01B	2021-08-19	8:53	2021-08-19	9:10	0.28	31	-
1	UNSN	102.0	-	U	U	Trawling	TR02	IPF	17W	501699 7976664	501981 7977507	TR02A	TR02B	2021-08-19	9:37	2021-08-19	10:07	0.50	32.5	Euthanized
2	UNCD	63.0	-	U	U	Trawling	TR02	IPF	17W	501699 7976664	501981 7977507	TR02A	TR02B	2021-08-19	9:37	2021-08-19	10:07	0.50	32.5	Released
3	RBSC	71.0	-	U	U	Trawling	TR02	IPF	17W	501699 7976664	501981 7977507	TR02A	TR02B	2021-08-19	9:37	2021-08-19	10:07	0.50	32.5	Released
4	UNSC	93.0	-	U	U	Trawling	TR02	IPF	17W	501699 7976664	501981 7977507	TR02A	TR02B	2021-08-19	9:37	2021-08-19	10:07	0.50	32.5	Released
5	ATPO	47.0	-	U	U	Trawling	TR02	IPF	17W	501699 7976664	501981 7977507	TR02A	TR02B	2021-08-19	9:37	2021-08-19	10:07	0.50	32.5	Euthanized
1	RBSC	134.0	-	U	U	Trawling	TR03	IPF	17W	502407 7978007	502720 7978457	TR03A	TR03B	2021-08-19	10:58	2021-08-19	11:40	0.70	50	Released
2	RBSC	82.0	-	U	U	Trawling	TR03	IPF	17W	502407 7978007	502720 7978457	TR03A	TR03B	2021-08-19	10:58	2021-08-19	11:40	0.70	50	Released
3	UNCD	58.0	-	U	U	Trawling	TR03	IPF	17W	502407 7978007	502720 7978457	TR03A	TR03B	2021-08-19	10:58	2021-08-19	11:40	0.70	50	Released
1	STSC	101.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Released
2	STSC	145.0	30.0	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Released
3	STSC	150.0	30.0	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Released
4	SAEP	121.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Released
5	RBSC	118.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Euthanized
6	ARSC	108.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Released
7	UNCD	99.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Released
8	STSC	122.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
9	RBSC	74.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Euthanized
10	RBSC	114.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Released
11	RBSC	109.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Released
12	RBSC	92.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
13	RBSC	93.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
14	RBSC	99.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
15	RBSC	95.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
16	RBSC	87.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
17	RBSC	95.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
18	RBSC	88.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
19	RBSC	92.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
20	RBSC	95.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
21	RBSC	96.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
22	RBSC	91.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
23	RBSC	108.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
24	RBSC	98.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Released
25	RBSC	117.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Released
26	RBSC	91.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
27	RBSC	98.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
28	RBSC	93.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
29	RBSC	96.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
30	RBSC	116.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
31	RBSC	94.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
32	RBSC	94.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
33	RBSC	110.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
34	RBSC	110.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
35	RBSC	97.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
36	RBSC	91.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
37	RBSC	94.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
38	RBSC	87.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
39	RBSC	99.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
40	RBSC	96.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
41	RBSC	102.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
42	RBSC	97.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
43	RBSC	89.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
44	RBSC	93.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
45	RBSC	94.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
46	RBSC	89.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
47	RBSC	80.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
48	RBSC	99.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
49	RBSC	88.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
50	RBSC	84.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Released
51	RBSC	100.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
52	AALG	72.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Euthanized
53	AALG	69.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Euthanized
54	UNCD	59.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
55	UNCD	69.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
56	UNCD	72.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
57	UNCD	73.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
58	UNCD	72.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
59	UNCD	63.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
60	UNCD	66.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
61	UNCD	70.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Mortality
62	STSC	90.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Released
63	UNSC	86.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Euthanized
64	UNSC	90.0	-	U	U	Trawling	TR04	DPF	17W	503009 7976604	503945 7976822	TR04A	TR04B	2021-08-19	13:02	2021-08-19	13:35	0.55	30	Released

[1] NFC = no fish caught

[2] AALG = Arctic Alligatorfish; ARCH = Arctic Char; ARSC = Arctic Sculpin; ATPO = Atlantic Poacher; FHSC = Fourhorn Sculpin; GRCD = Pacific Cod (previously Greenland Cod); RBSC = Ribbed Sculpin; SAEP = Saddled Eelpout; SHSC = Shorthorn Sculpin; STSC = Arctic Staghorn Sculpin; UNCD = Unknown Cod; UNPO = Unknown Poacher; UNSC = Unknown Sculpin; UNSN = Unknown Snailfish

[3] M = Male; F = Female; U = Unknown

[4] A = Adult; J = Juvenile; F = Fry; U = Uknown

[5] DPF = Direct Project Footprint; IPF = Indirect Project Footprint; REF-K = Chapter 7.0 fish health reference exploration in Tugaat River

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
NFC	-	-	-	-	-	Angling - Jigging	AJ01	IPF	17W	503217 7976609	- -	AJ01	-	02-08-2022	9:05	02-08-2022	9:35	0.50	15	-
1	FHSC	242	162.6	M	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Euthanized
2	FHSC	258	187.1	F	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Euthanized
3	FHSC	233	138	F	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
4	FHSC	179	54	F	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
5	FHSC	191	73	M	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
6	FHSC	210	78	F	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
7	FHSC	203	86	M	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
8	FHSC	214	124	M	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
9	FHSC	154	32	U	J	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
10	FHSC	228	124	F	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
11	FHSC	195	63	M	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
12	FHSC	206	81	F	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
13	FHSC	217	102	F	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
14	FHSC	207	82	F	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
15	FHSC	213	98	F	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
16	FHSC	194	75	F	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
17	FHSC	272	231	M	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
18	FHSC	229	112	F	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
19	FHSC	170	38	U	J	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
20	FHSC	245	124	M	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
21	FHSC	200	73	F	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
22	FHSC	191	65	F	A	Angling - Jigging	AJ02	DPF	17W	503219 7976551	- -	AJ02	-	03-08-2022	14:06	03-08-2022	14:36	0.50	1	Released
1	GRCD	706	4260	U	A	Angling - Jigging	AJ03	IPF	17W	505722 7978486	- -	AJ03	-	04-08-2022	8:20	04-08-2022	8:50	0.50	20	Released
2	SHSC	322	460	U	A	Angling - Jigging	AJ03	IPF	17W	505722 7978486	- -	AJ03	-	04-08-2022	8:20	04-08-2022	8:50	0.50	20	Released
1	FHSC	149	20	U	J	Angling - Jigging	AJ04	DPF	17W	504012 7976601	- -	AJ04	-	04-08-2022	13:20	04-08-2022	13:40	0.33	1.5	Released
1	FHSC	191	60	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
2	FHSC	182	80	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
3	FHSC	174	45	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
4	FHSC	191	65	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
5	FHSC	171	50	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
6	FHSC	84	55	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
7	FHSC	151	50	U	U	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
8	FHSC	83	60	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
9	FHSC	188	60	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
10	FHSC	200	70	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
11	FHSC	195	70	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
12	FHSC	162	40	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
13	FHSC	157	40	F	U	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
14	FHSC	194	80	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
15	FHSC	190	70	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
16	FHSC	201	85	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
17	FHSC	133	65	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
18	FHSC	149	30	U	J	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
19	FHSC	195	70	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
20	FHSC	254	184.7	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Euthanized
21	FHSC	306	353.1	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Euthanized
22	FHSC	260	166.7	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Euthanized
23	FHSC	266	249.3	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Euthanized
24	FHSC	214	96.6	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Euthanized
25	FHSC	278	211.4	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Euthanized
26	FHSC	240	136.1	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Euthanized
27	FHSC	230	111.4	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Euthanized
28	FHSC	218	107.2	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Euthanized
29	FHSC	230	118.5	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Euthanized
30	FHSC	267	209.1	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Euthanized
31	FHSC	267	209.1	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Euthanized
32	FHSC	225	115.5	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Euthanized
33	FHSC	204	96	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
34	FHSC	210	83	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
35	FHSC	218	104	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
36	FHSC	224	134	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
37	FHSC	203	109	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
38	FHSC	201	74	F	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
39	FHSC	207	78	M	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Released
40	FHSC	247	142.8	A	A	Angling - Jigging	AJ05	DPF	17W	503148 7976501	- -	AJ05	-	05-08-2022	10:32	05-08-2022	11:51	1.32	2	Euthanized
1	FHSC	264	213	F	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
2	FHSC	250	145	F	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
3	FHSC	200	82	M	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
4	FHSC	240	153	M	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
5	FHSC	288	258	M	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
6	FHSC	254	149	M	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
7	FHSC	227	116	M	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
8	FHSC	205	73	F	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
9	FHSC	197	71	M	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
10	FHSC	261	175	M	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
11	FHSC	210	100	M	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
12	FHSC	189	60	M	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
13	FHSC	226	108	F	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
14	FHSC	264	171	F	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
15	FHSC	225	95	M	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
16	FHSC	234	133	M	A	Angling - Jigging	AJ06	DPF	17W	503211 7976565	- -	AJ06	-	05-08-2022	13:13	05-08-2022	13:43	0.50	3	Released
1	FHSC	200	110	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
2	FHSC	203	80	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
3	FHSC	194	90	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
4	FHSC	183	80	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
5	FHSC	199	85	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
6	FHSC	194	70	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
7	FHSC	194	60	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
8	FHSC	196	85	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
9	FHSC	245	150.1	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Euthanized
10	FHSC	222	115.3	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Euthanized
11	FHSC	217	101.3	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Euthanized
12	FHSC	242	144.2	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Euthanized
13	FHSC	252	169.2	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Euthanized
14	FHSC	212	180	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Euthanized
15	FHSC	257	141.8	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Euthanized
16	FHSC	252	165.1	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Euthanized
17	FHSC	246	154.8	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Euthanized
18	FHSC	241	121	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
19	FHSC	212	89	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
20	FHSC	207	82	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
21	FHSC	239	139	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
22	FHSC	217	99	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
23	FHSC	230	107	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
24	FHSC	214	92	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
25	FHSC	217	87	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
26	FHSC	239	115	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
27	FHSC	187	65	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
28	FHSC	224	106	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
29	FHSC	218	108	M	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
30	FHSC	214	86	F	A	Angling - Jigging	AJ07	DPF	17W	503221 7976581	- -	AJ07	-	06-08-2022	13:17	06-08-2022	14:00	0.72	3	Released
NFC	-	-	-	-	-	Angling - Jigging	AJ08	IPF	17W	504950 7976588	- -	AJ08	-	08-08-2022	8:31	08-08-2022	9:05	0.57	10	-
1	SHSC	354	580	U	U	Angling - Jigging	AJ09	DPF	17W	503986 7976664	- -	AJ09	-	08-08-2022	9:37	08-08-2022	10:00	0.38	6	Released
1	GRCD	468	1610	U	A	Angling - Jigging	AJ10	DPF	17W	503213 7976613	- -	AJ10	-	11-08-2022	10:46	11-08-2022	11:05	0.32	15	Released
2	SHSC	260	300	U	A	Angling - Jigging	AJ10	DPF	17W	503213 7976613	- -	AJ10	-	11-08-2022	10:46	11-08-2022	11:05	0.32	15	Released
3	SHSC	277	360	U	A	Angling - Jigging	AJ10	DPF	17W	503213 7976613	- -	AJ10	-	11-08-2022	10:46	11-08-2022	11:05	0.32	15	Released
4	SHSC	232	260	U	A	Angling - Jigging	AJ10	DPF	17W	503213 7976613	- -	AJ10	-	11-08-2022	10:46	11-08-2022	11:05	0.32	15	Released
1	GRCD	505	1570	U	A	Angling - Jigging	AJ11	IPF	17W	505718 7978472	- -	AJ11	-	13-08-2022	11:20	13-08-2022	11:40	0.33	20	Released
2	GRCD	528	2290	U	A	Angling - Jigging	AJ11	IPF	17W	505718 7978472	- -	AJ11	-	13-08-2022	11:20	13-08-2022	11:40	0.33	20	Released
3	GRCD	574	2490	U	A	Angling - Jigging	AJ11	IPF	17W	505718 7978472	- -	AJ11	-	13-08-2022	11:20	13-08-2022	11:40	0.33	20	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
4	SHSC	323	450	U	A	Angling - Jigging	AJ11	IPF	17W	505718 7978472	- -	AJ11	-	13-08-2022	11:20	13-08-2022	11:40	0.33	20	Released
5	SHSC	280	260	U	A	Angling - Jigging	AJ11	IPF	17W	505718 7978472	- -	AJ11	-	13-08-2022	11:20	13-08-2022	11:40	0.33	20	Released
1	SHSC	290	470	U	A	Angling - Jigging	AJ12	IPF	17W	505124 7977155	- -	AJ12	-	14-08-2022	9:20	14-08-2022	9:55	0.58	3	Released
2	SHSC	243	220	U	A	Angling - Jigging	AJ12	IPF	17W	505124 7977155	- -	AJ12	-	14-08-2022	9:20	14-08-2022	9:55	0.58	3	Released
3	SHSC	318	430	U	A	Angling - Jigging	AJ12	IPF	17W	505124 7977155	- -	AJ12	-	14-08-2022	9:20	14-08-2022	9:55	0.58	3	Released
4	SHSC	255	270	U	A	Angling - Jigging	AJ12	IPF	17W	505124 7977155	- -	AJ12	-	14-08-2022	9:20	14-08-2022	9:55	0.58	3	Released
5	SHSC	192	90	U	A	Angling - Jigging	AJ12	IPF	17W	505124 7977155	- -	AJ12	-	14-08-2022	9:20	14-08-2022	9:55	0.58	3	Released
6	SHSC	188	100	U	A	Angling - Jigging	AJ12	IPF	17W	505124 7977155	- -	AJ12	-	14-08-2022	9:20	14-08-2022	9:55	0.58	3	Released
7	SHSC	172	60	U	A	Angling - Jigging	AJ12	IPF	17W	505124 7977155	- -	AJ12	-	14-08-2022	9:20	14-08-2022	9:55	0.58	3	Released
8	SHSC	160	50	U	U	Angling - Jigging	AJ12	IPF	17W	505124 7977155	- -	AJ12	-	14-08-2022	9:20	14-08-2022	9:55	0.58	3	Released
9	SHSC	210	80	U	A	Angling - Jigging	AJ12	IPF	17W	505124 7977155	- -	AJ12	-	14-08-2022	9:20	14-08-2022	9:55	0.58	3	Released
10	SHSC	186	90	U	A	Angling - Jigging	AJ12	IPF	17W	505124 7977155	- -	AJ12	-	14-08-2022	9:20	14-08-2022	9:55	0.58	3	Released
11	SHSC	185	100	U	A	Angling - Jigging	AJ12	IPF	17W	505124 7977155	- -	AJ12	-	14-08-2022	9:20	14-08-2022	9:55	0.58	3	Released
12	SHSC	171	50	U	U	Angling - Jigging	AJ12	IPF	17W	505124 7977155	- -	AJ12	-	14-08-2022	9:20	14-08-2022	9:55	0.58	3	Released
13	SHSC	158	50	U	A	Angling - Jigging	AJ12	IPF	17W	505124 7977155	- -	AJ12	-	14-08-2022	9:20	14-08-2022	9:55	0.58	3	Released
NFC	-	-	-	-	-	Angling - Jigging	AJ13	DPF	17W	503209 7976628	- -	AJ13	-	14-08-2022	14:09	14-08-2022	15:24	1.25	15	-
1	FHSC	284	278.7	F	A	Angling - Jigging	AJREF1	REF - T	17W	512013 7988996	512004 7988841	AJREF1S	AJREF1D	10-08-2022	10:23	10-08-2022	10:33	0.17	2	Euthanized
2	ARCH	-	-	-	-	Angling - Jigging	AJREF1	REF - T	17W	512013 7988996	512004 7988841	AJREF1S	AJREF1D	10-08-2022	10:23	10-08-2022	10:33	0.17	2	Released
3	ARCH	-	-	-	-	Angling - Jigging	AJREF1	REF - T	17W	512013 7988996	512004 7988841	AJREF1S	AJREF1D	10-08-2022	10:23	10-08-2022	10:33	0.17	2	Released
1	SHSC	354	595	A	UN	Angling - Jigging	AJREF2	REF - K	17W	511514 7997614	- -	AJREF2	-	10-08-2022	14:50	10-08-2022	15:00	0.17	2	Released
2	SHSC	214	110	A	UN	Angling - Jigging	AJREF2	REF - K	17W	511514 7997614	- -	AJREF2	-	10-08-2022	14:50	10-08-2022	15:00	0.17	2	Released
3	SHSC	197	100	A	UN	Angling - Jigging	AJREF2	REF - K	17W	511514 7997614	- -	AJREF2	-	10-08-2022	14:50	10-08-2022	15:00	0.17	2	Released
4	SHSC	246	200	A	UN	Angling - Jigging	AJREF2	REF - K	17W	511514 7997614	- -	AJREF2	-	10-08-2022	14:50	10-08-2022	15:00	0.17	2	Released
5	SHSC	280	310	A	UN	Angling - Jigging	AJREF2	REF - K	17W	511514 7997614	- -	AJREF2	-	10-08-2022	14:50	10-08-2022	15:00	0.17	2	Released
6	SHSC	175	40	A	UN	Angling - Jigging	AJREF2	REF - K	17W	511514 7997614	- -	AJREF2	-	10-08-2022	14:50	10-08-2022	15:00	0.17	2	Released
7	SHSC	216	125	A	UN	Angling - Jigging	AJREF2	REF - K	17W	511514 7997614	- -	AJREF2	-	10-08-2022	14:50	10-08-2022	15:00	0.17	2	Released
8	SHSC	208	100	A	UN	Angling - Jigging	AJREF2	REF - K	17W	511514 7997614	- -	AJREF2	-	10-08-2022	14:50	10-08-2022	15:00	0.17	2	Released
9	SHSC	197	100	A	UN	Angling - Jigging	AJREF2	REF - K	17W	511514 7997614	- -	AJREF2	-	10-08-2022	14:50	10-08-2022	15:00	0.17	2	Released
10	SHSC	190	80	A	UN	Angling - Jigging	AJREF2	REF - K	17W	511514 7997614	- -	AJREF2	-	10-08-2022	14:50	10-08-2022	15:00	0.17	2	Released
11	SHSC	180	80	A	UN	Angling - Jigging	AJREF2	REF - K	17W	511514 7997614	- -	AJREF2	-	10-08-2022	14:50	10-08-2022	15:00	0.17	2	Released
12	SHSC	200	100	A	UN	Angling - Jigging	AJREF2	REF - K	17W	511514 7997614	- -	AJREF2	-	10-08-2022	14:50	10-08-2022	15:00	0.17	2	Released
1	ARSC	224	130	U	A	Angling - Jigging	AJREF3	REF - K	17W	509027 8000823	- -	AJREF3	-	10-08-2022	15:30	10-08-2022	15:45	0.25	2	Released
2	ARSC	220	130	U	A	Angling - Jigging	AJREF3	REF - K	17W	509027 8000823	- -	AJREF3	-	10-08-2022	15:30	10-08-2022	15:45	0.25	2	Released
3	SHSC	345	200	U	A	Angling - Jigging	AJREF3	REF - K	17W	509027 8000823	- -	AJREF3	-	10-08-2022	15:30	10-08-2022	15:45	0.25	2	Released
1	SHSC	213	95	U	A	Angling - Jigging	AJREF4	REF - K	17W	506316 7993979	- -	PHAB8	-	10-08-2022	16:16	10-08-2022	16:26	0.17	3	Released
1	FHSC	249	160	M	A	Angling - Trolling	AT01	IPF	17W	505168 7977369	505117 7977124	AT01S	AT01D	04-08-2022	10:06	04-08-2022	10:42	0.60	5	Released
2	ARSC	136	30	U	A	Angling - Trolling	AT01	IPF	17W	505168 7977369	505117 7977124	AT01S	AT01D	04-08-2022	10:06	04-08-2022	10:42	0.60	5	Released
1	FHSC	192	60	M	A	Angling - Trolling	AT02	DPF	17W	503139 7976499	503077 7976441	AT02S	AT02E	04-08-2022	15:46	04-08-2022	15:58	0.20	3	Released
2	FHSC	214	110	M	A	Angling - Trolling	AT02	DPF	17W	503139 7976499	503077 7976441	AT02S	AT02E	04-08-2022	15:46	04-08-2022	15:58	0.20	3	Released
3	FHSC	197	77	F	A	Angling - Trolling	AT02	DPF	17W	503139 7976499	503077 7976441	AT02S	AT02E	04-08-2022	15:46	04-08-2022	15:58	0.20	3	Released
4	FHSC	207	92	F	A	Angling - Trolling	AT02	DPF	17W	503139 7976499	503077 7976441	AT02S	AT02E	04-08-2022	15:46	04-08-2022	15:58	0.20	3	Released
5	FHSC	182	57	M	A	Angling - Trolling	AT02	DPF	17W	503139 7976499	503077 7976441	AT02S	AT02E	04-08-2022	15:46	04-08-2022	15:58	0.20	3	Released
NFC	-	-	-	-	-	Angling - Trolling	AT03	DPF	17W	503890 7976647	503915 7976603	AT03S	AT03E	05-08-2022	10:15	05-08-2022	10:21	0.10	1.5	-
1	GRCD	445	830	-	A	Angling - Trolling	AT04	DPF	17W	503225 7976606	502879 7976483	AT04S	AT04E	06-08-2022	8:34	06-08-2022	9:00	0.43	3	Released
2	ARCH	620	275	-	A	Angling - Trolling	AT04	DPF	17W	503225 7976606	502879 7976483	AT04S	AT04E	06-08-2022	8:34	06-08-2022	9:00	0.43	3	Released
1	FHSC	294	260	F	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
2	FHSC	259	220	F	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
3	FHSC	332	450	M	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
4	FHSC	199	50	U	U	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
5	FHSC	290	260	M	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
6	FHSC	240	130	M	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
7	FHSC	248	160	F	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
8	FHSC	281	270	M	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
9	FHSC	225	105	M	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
10	FHSC	229	130	M	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
11	FHSC	226	120	M	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
12	FHSC	228	100	M	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
13	FHSC	170	30	U	U	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
14	FHSC	264	150	M	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
15	FHSC	240	145	F	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
16	FHSC	202	70	F	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
17	FHSC	237	140	M	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
18	FHSC	172	30	U	U	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
19	FHSC	216	80	F	U	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
20	FHSC	207	60	M	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
21	FHSC	180	30	M	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
22	FHSC	203	70	M	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
23	FHSC	209	80	M	A	Angling - Jigging	AT05	DPF	17W	503207 7976607	503115 7976508	AT05S	AT05E	11-08-2022	8:58	11-08-2022	9:46	0.80	4	Released
NFC	-	-	-	-	-	Angling - Trolling	AT06	DPF	17W	502884 7976390	502845 7976364	AT06S	AT06E	13-08-2022	16:20	13-08-2022	16:38	0.30	12	-
1	SHSC	260	340	U	A	Angling - Trolling	AT07S	DPF	17W	504225 7976667	504606 7976722	AT07S	AT07E	14-08-2022	11:00	14-08-2022	11:45	0.75	8	Released
2	SHSC	176	70	U	A	Angling - Trolling	AT07S	DPF	17W	504225 7976667	504606 7976722	AT07S	AT07E	14-08-2022	11:00	14-08-2022	11:45	0.75	8	Released
3	SHSC	219	180	U	A	Angling - Trolling	AT07S	DPF	17W	504225 7976667	504606 7976722	AT07S	AT07E	14-08-2022	11:00	14-08-2022	11:45	0.75	8	Released
4	SHSC	205	150	U	A	Angling - Trolling	AT07S	DPF	17W	504225 7976667	504606 7976722	AT07S	AT07E	14-08-2022	11:00	14-08-2022	11:45	0.75	8	Released
5	FHSC	245	240	F	A	Angling - Trolling	AT07S	DPF	17W	504225 7976667	504606 7976722	AT07S	AT07E	14-08-2022	11:00	14-08-2022	11:45	0.75	8	Released
1	GRCD	578	2240	U	A	Angling - Trolling	AT08	IPF	17W	505308 7978093	505297 7977948	AT08S	AT08E	14-08-2022	15:25	14-08-2022	15:58	0.55	15	Released
2	SHSC	313	450	U	A	Angling - Trolling	AT08	IPF	17W	505308 7978093	505297 7977948	AT08S	AT08E	14-08-2022	15:25	14-08-2022	15:58	0.55	15	Released
NFC	-	-	-	-	-	Fukui Trap	FT01	DPF	17W	503215 7976561	- -	FT01	-	01-08-2022	15:51	03-08-2022	9:50	41.98	2	-
NFC	-	-	-	-	-	Fukui Trap	FT02	DPF	17W	503204 7976540	- -	FT02	-	01-08-2022	15:55	03-08-2022	9:58	42.05	2	-
NFC	-	-	-	-	-	Fukui Trap	FT03	DPF	17W	503115 7976522	- -	FT03	-	01-08-2022	15:57	03-08-2022	10:00	42.05	10	-
1	FHSC	174	60	F	A	Fukui Trap	FT04	IPF	17W	502740 7976275	- -	FT04	-	01-08-2022	16:07	03-08-2022	9:10	41.05	2	Released
NFC	-	-	-	-	-	Fukui Trap	FT05	IPF	17W	502664 7976287	- -	FT05	-	01-08-2022	16:10	03-08-2022	9:15	41.08	2	-
NFC	-	-	-	-	-	Fukui Trap	FT06	IPF	17W	502661 7976441	- -	FT06	-	01-08-2022	16:15	03-08-2022	9:20	41.08	18	-
NFC	-	-	-	-	-	Fukui Trap	FT07	IPF	17W	502508 7976537	- -	FT07	-	03-08-2022	9:20	05-08-2022	8:30	47.17	15	-
NFC	-	-	-	-	-	Fukui Trap	FT08	IPF	17W	502392 7976461	- -	FT08	-	03-08-2022	9:23	05-08-2022	8:40	47.28	2	-
NFC	-	-	-	-	-	Fukui Trap	FT09	IPF	17W	502287 7976432	- -	FT09	-	03-08-2022	9:28	05-08-2022	8:50	47.37	2	-
1	FHSC	169	50	M	A	Fukui Trap	FT10	DPF	17W	502980 7976395	- -	FT10	-	03-08-2022	10:17	05-08-2022	9:05	46.80	2	Released
NFC	-	-	-	-	-	Fukui Trap	FT11	DPF	17W	502883 7976346	- -	FT11	-	03-08-2022	10:20	05-08-2022	9:10	46.83	2	-
NFC	-	-	-	-	-	Fukui Trap	FT12	DPF	17W	502897 7976391	- -	FT12	-	03-08-2022	10:24	05-08-2022	9:15	46.85	2	-
NFC	-	-	-	-	-	Fukui Trap	FT13	DPF	17W	503869 7976636	- -	FT13	-	05-08-2022	8:45	09-08-2022	8:10	95.42	1	-
1	FHSC	194	100	F	A	Fukui Trap	FT14	DPF	17W	503911 7976549	- -	FT14	-	05-08-2022	8:50	09-08-2022	8:10	95.33	1	Released
1	GRCD	472	1200	U	U	Fukui Trap	FT15	DPF	17W	503925 7976707	- -	FT15	-	05-08-2022	8:55	09-08-2022	8:05	95.17	12	Released
NFC	-	-	-	-	-	Fukui Trap	FT16	IPF	17W	504683 7976765	- -	FT16	-	05-08-2022	9:30	09-08-2022	8:35	95.08	22	-
1	ARSC	104	20	U	U	Fukui Trap	FT17	IPF	17W	504713 7976713	- -	FT17	-	05-08-2022	9:40	09-08-2022	8:45	95.08	2	Released
1	SHSC	166	90	U	U	Fukui Trap	FT18	IPF	17W	504844 7976638	- -	FT18	-	05-08-2022	9:45	09-08-2022	8:50	95.08	12	Released
NFC	-	-	-	-	-	Fukui Trap	FT19	DPF	17W	504032 7976602	- -	FT19	-	09-08-2022	8:20	13-08-2022	8:30	96.17	2	-
NFC	-	-	-	-	-	Fukui Trap	FT20	DPF	17W	504072 7976570	- -	FT20	-	09-08-2022	8:25	13-08-2022	8:25	96.00	2	-
1	ARSC	167	80	U	A	Fukui Trap	FT21	IPF	17W	505098 7976838	- -	FT21	-	09-08-2022	8:40	13-08-2022	7:35	94.92	15	Released
2	HBEP	187	30	U	U	Fukui Trap	FT21	IPF	17W	505098 7976838	- -	FT21	-	09-08-2022	8:40	13-08-2022	7:35	94.92	15	Released
NFC	-	-	-	-	-	Fukui Trap	FT22	IPF	17W	505135 7977043	- -	FT22	-	09-08-2022	9:55	13-08-2022	7:50	93.92	1	-
1	SHSC	144	50	U	A	Fukui Trap	FT23	IPF	17W	505180 7977407	- -	FT23	-	09-08-2022	9:03	13-08-2022	8:00	94.95	2	Released
1	FHSC	155	35	M	A	Fukui Trap	FT24	DPF	17W	504064 7976674	- -	FT24	-	09-08-2022	16:30	13-08-2022	8:10	87.67	12	Released
1	SAEP	168	25	U	A	Fukui Trap	FT24	DPF	17W	504064 7976674	- -	FT24	-	09-08-2022	16:30	13-08-2022	8:10	87.67	12	Released
NFC	-	-	-	-	-	Fukui Trap	FT25	IPF	17W	505076 7977076	- -	FT25	-	13-08-2022	7:40	14-08-2022	15:07	31.45	11	-
NFC	-	-	-	-	-	Fukui Trap	FT26	IPF	17W	505149 7977299	- -	FT26	-	13-08-2022	8:00	14-08-2022	15:12	31.20	2	-
NFC	-	-	-	-	-	Fukui Trap	FT27	IPF	17W	505161 7977602	- -	FT27	-	13-08-2022	8:05	14-08-2022	15:18	31.22	2	-
NFC	-	-	-	-	-	Fukui Trap	FT28	DPF	17W	504217 7976641	- -	FT28	-	13-08-2022	8:20	14-08-2022	14:50	30.50	15	-
NFC	-	-	-	-	-	Fukui Trap	FT29	DPF	17W	504331 7976564	- -	FT29	-	13-08-2022	8:32	14-08-2022	14:55	30.38	2.5	-
NFC	-	-	-	-	-	Fukui Trap	FT30	DPF	17W	504411 7976544	- -	FT30	-	13-08-2022	8:35	14-08-2022	15:30	30.92	2.5	-
1	ARCH	450	1200	F	A	Gill Net	GN01	DPF	17W	503107 7976434	503092 7976539	GN01S	GN01D	01-08-2022	9:30	01-08-2022	13:20	3.83	6	Mortality
2	ARCH	755	5390	U	A	Gill Net	GN01	DPF	17W	503107 7976434	503092 7976539	GN01S	GN01D	01-08-2022	9:30	01-08-2022	13:20	3.83	6	Released
3	ARCH	534	2310	U	A	Gill Net	GN01	DPF	17W	503107 7976434	503092 7976539	GN01S	GN01D	01-08-2022	9:30	01-08-2022	13:20	3.83	6	Released
4	ARCH	521	1760	F	A	Gill Net	GN01	DPF	17W	503107 7976434	503092 7976539	GN01S	GN01D	01-08-2022	9:30	01-08-2022	13:20	3.83	6	Mortality
5	ARCH	457	1110	F	A	Gill Net	GN01	DPF	17W	503107 7976434	503092 7976539	GN01S	GN01D	01-08-2022	9:30	01-08-2022	13:20	3.83	6	Mortality
6	ARCH	559	2110	M	A	Gill Net	GN01	DPF	17W	503107 7976434	503092 7976539	GN01S	GN01D	01-08-2022	9:30	01-08-2022	13:20	3.83	6	Mortality
7	ARCH	545	1810	M	A	Gill Net	GN01	DPF	17W	503107 7976434	503092 7976539	GN01S	GN01D	01-08-2022	9:30	01-08-2022	13:20	3.83	6	Mortality
8	ARCH	429	1000	F	A	Gill Net	GN01	DPF	17W	503107 7976434	503092 7976539	GN01S	GN01D	01-08-2022	9:30	01-08-2022	13:20	3.83	6	Mortality
9	ARCH	426	1080	M	A	Gill Net	GN01	DPF	17W	503107 7976434	503092 7976539	GN01S	GN01D	01-08-2022	9:30	01-08-2022	13:20	3.83	6	Mortality
10	FHSC	157	349	U	A	Gill Net	GN01	DPF	17W	503107 7976434	503092 7976539	GN01S	GN01D	01-08-2022	9:30	01-08-2022	13:20	3.83	6	Released
11	FHSC	255	200	U	A	Gill Net	GN01	DPF	17W	503107 7976434	503092 7976539	GN01S	GN01D	01-08-2022	9:30	01-08-2022	13:20	3.83	6	Released
12	FHSC	144	20	U	U	Gill Net	GN01	DPF	17W	503107 7976434	503092 7976539	GN01S	GN01D	01-08-2022	9:30	01-08-2022	13:20	3.83	6	Released
13	ARCH	601	2790	U	A	Gill Net	GN01	DPF	17W	503107 7976434	503092 7976539	GN01S	GN01D	01-08-2022	9:30	01-08-2022	13:20	3.83	6	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
1	FHSC	198	755	U	A	Gill Net	GN02	IPF	17W	502604 7976229	502624 7976318	GN02S	GN02D	01-08-2022	9:58	01-08-2022	13:30	3.53	1.5	Released
2	ARCH	744	5000	U	A	Gill Net	GN02	IPF	17W	502604 7976229	502624 7976318	GN02S	GN02D	01-08-2022	9:58	01-08-2022	13:30	3.53	1.5	Released
3	ARCH	580	2430	U	A	Gill Net	GN02	IPF	17W	502604 7976229	502624 7976318	GN02S	GN02D	01-08-2022	9:58	01-08-2022	13:30	3.53	1.5	Released
4	FHSC	180	60	U	U	Gill Net	GN02	IPF	17W	502604 7976229	502624 7976318	GN02S	GN02D	01-08-2022	9:58	01-08-2022	13:30	3.53	1.5	Released
5	FHSC	185	70	U	U	Gill Net	GN02	IPF	17W	502604 7976229	502624 7976318	GN02S	GN02D	01-08-2022	9:58	01-08-2022	13:30	3.53	1.5	Released
6	ARCH	516	1520	M	A	Gill Net	GN02	IPF	17W	502604 7976229	502624 7976318	GN02S	GN02D	01-08-2022	9:58	01-08-2022	13:30	3.53	1.5	Mortality
7	ARCH	525	1890	M	A	Gill Net	GN02	IPF	17W	502604 7976229	502624 7976318	GN02S	GN02D	01-08-2022	9:58	01-08-2022	13:30	3.53	1.5	Mortality
8	ARCH	328	390	M	J	Gill Net	GN02	IPF	17W	502604 7976229	502624 7976318	GN02S	GN02D	01-08-2022	9:58	01-08-2022	13:30	3.53	1.5	Mortality
1	ARCH	332	530	U	U	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
2	ARCH	236	140	U	J	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
3	FHSC	245	130	F	A	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
4	FHSC	248	120	F	A	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
5	FHSC	273	210	F	A	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
6	FHSC	221	180	F	A	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
7	FHSC	225	130	M	A	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
8	FHSC	258	270	M	A	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
9	FHSC	255	210	M	A	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
10	FHSC	234	140	M	A	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
11	FHSC	257	190	M	A	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
12	FHSC	277	280	M	A	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
13	FHSC	252	200	M	A	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
14	FHSC	245	110	M	A	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
15	ARCH	522	1750	U	A	Gill Net	GN03	IPF	17W	505195 7977496	505141 7977420	GN03S	GN03D	04-08-2022	9:31	04-08-2022	12:00	2.48	2.5	Released
1	ARCH	395	770	U	A	Gill Net	GN04	IPF	17W	505142 7977064	505077 7977023	GN04S	GN04D	04-08-2022	9:49	04-08-2022	11:45	1.93	5	Released
2	ARCH	663	3300	U	A	Gill Net	GN04	IPF	17W	505142 7977064	505077 7977023	GN04S	GN04D	04-08-2022	9:49	04-08-2022	11:45	1.93	5	Released
3	ARCH	495	1390	M	A	Gill Net	GN04	IPF	17W	505142 7977064	505077 7977023	GN04S	GN04D	04-08-2022	9:49	04-08-2022	11:45	1.93	5	Mortality
4	ARCH	676	4050	U	A	Gill Net	GN04	IPF	17W	505142 7977064	505077 7977023	GN04S	GN04D	04-08-2022	9:49	04-08-2022	11:45	1.93	5	Released
5	ARCH	353	420	U	A	Gill Net	GN04	IPF	17W	505142 7977064	505077 7977023	GN04S	GN04D	04-08-2022	9:49	04-08-2022	11:45	1.93	5	Released
6	ARCH	225	80	U	U	Gill Net	GN04	IPF	17W	505142 7977064	505077 7977023	GN04S	GN04D	04-08-2022	9:49	04-08-2022	11:45	1.93	5	Released
7	FHSC	242	110	M	A	Gill Net	GN04	IPF	17W	505142 7977064	505077 7977023	GN04S	GN04D	04-08-2022	9:49	04-08-2022	11:45	1.93	5	Released
8	FHSC	227	120	M	A	Gill Net	GN04	IPF	17W	505142 7977064	505077 7977023	GN04S	GN04D	04-08-2022	9:49	04-08-2022	11:45	1.93	5	Released
1	ARCH	579	1800	U	U	Gill Net	GN05	DPF	17W	504357 7976466	504347 7976559	GN05S	GN05D	04-08-2022	12:50	04-08-2022	14:57	2.12	1.5	Released
1	FHSC	240	136.7	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Euthanized
2	FHSC	220	105.1	M	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Euthanized
3	FHSC	322	435	U	U	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
4	FHSC	209	95	M	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
5	FHSC	203	77	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
6	FHSC	231	115	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
7	FHSC	207	75	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
8	FHSC	224	99	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
9	FHSC	161	88	U	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
10	FHSC	204	72	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
11	FHSC	208	126	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
12	FHSC	219	110	M	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
13	FHSC	211	83	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
14	FHSC	183	55	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
15	FHSC	176	58	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
16	FHSC	203	82	M	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
17	FHSC	220	96	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
18	FHSC	183	60	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
19	FHSC	192	63	M	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
20	FHSC	197	74	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
21	FHSC	179	52	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
22	FHSC	160	38	F	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
23	FHSC	169	48	M	A	Gill Net	GN06	DPF	17W	503917 7976503	503853 7976561	GN06S	GN06D	04-08-2022	13:15	04-08-2022	15:15	2.00	1.5	Released
1	ARCH	434	950	U	A	Gill Net	GN07	IPF	17W	505163 7976895	505137 7976814	GN07S	GN07E	07-08-2022	12:01	07-08-2022	13:25	1.40	3.5	Released
2	FHSC	226	110	M	A	Gill Net	GN07	IPF	17W	505163 7976895	505137 7976814	GN07S	GN07E	07-08-2022	12:01	07-08-2022	13:25	1.40	4.5	Released
3	FHSC	258	185	F	A	Gill Net	GN07	IPF	17W	505163 7976895	505137 7976814	GN07S	GN07E	07-08-2022	12:01	07-08-2022	13:25	1.40	5.5	Released
4	FHSC	221	110	F	A	Gill Net	GN07	IPF	17W	505163 7976895	505137 7976814	GN07S	GN07E	07-08-2022	12:01	07-08-2022	13:25	1.40	6.5	Released
5	FHSC	234	175	F	A	Gill Net	GN07	IPF	17W	505163 7976895	505137 7976814	GN07S	GN07E	07-08-2022	12:01	07-08-2022	13:25	1.40	7.5	Released
6	FHSC	220	-	M	A	Gill Net	GN07	IPF	17W	505163 7976895	505137 7976814	GN07S	GN07E	07-08-2022	12:01	07-08-2022	13:25	1.40	8.5	Released
7	ARCH	420	750	U	A	Gill Net	GN07	IPF	17W	505163 7976895	505137 7976814	GN07S	GN07E	07-08-2022	12:01	07-08-2022	13:25	1.40	9.5	Mortality
8	SHSC	295	350	U	A	Gill Net	GN07	IPF	17W	505163 7976895	505137 7976814	GN07S	GN07E	07-08-2022	12:01	07-08-2022	13:25	1.40	10.5	Released
9	ARSC	220	180	U	A	Gill Net	GN07	IPF	17W	505163 7976895	505137 7976814	GN07S	GN07E	07-08-2022	12:01	07-08-2022	13:25	1.40	11.5	Released
1	FHSC	210	85	M	A	Gill Net	GN08	DPF	17W	504104 7976627	504184 7976646	GN08S	GNO8E	07-08-2022	12:30	07-08-2022	13:45	1.25	4	Released
2	ARCH	429	1008	U	A	Gill Net	GN08	DPF	17W	504104 7976627	504184 7976646	GN08S	GNO8E	07-08-2022	12:30	07-08-2022	13:45	1.25	4	Mortality
NFC	-	-	-	-	-	Gill Net	GN09	DPF	17W	503551 7976418	503540 7976508	GN09S	GN09D	08-08-2022	8:06	08-08-2022	11:30	3.40	1.5	-
1	ARCH	340	450	U	A	Gill Net	GN10	IPF	17W	504512 7976467	504431 7976503	GN10S	GN10D	08-08-2022	8:17	08-08-2022	11:00	2.72	2	Released
2	FHSC	173	55	M	A	Gill Net	GN10	IPF	17W	504512 7976467	504431 7976503	GN10S	GN10D	08-08-2022	8:17	08-08-2022	11:00	2.72	2	Released
3	FHSC	214	11	M	A	Gill Net	GN10	IPF	17W	504512 7976467	504431 7976503	GN10S	GN10D	08-08-2022	8:17	08-08-2022	11:00	2.72	2	Released
4	FHSC	199	85	F	A	Gill Net	GN10	IPF	17W	504512 7976467	504431 7976503	GN10S	GN10D	08-08-2022	8:17	08-08-2022	11:00	2.72	2	Released
5	FHSC	201	80	F	A	Gill Net	GN10	IPF	17W	504512 7976467	504431 7976503	GN10S	GN10D	08-08-2022	8:17	08-08-2022	11:00	2.72	2	Released
6	FHSC	141	40	U	A	Gill Net	GN10	IPF	17W	504512 7976467	504431 7976503	GN10S	GN10D	08-08-2022	8:17	08-08-2022	11:00	2.72	2	Released
7	FHSC	210	100	M	A	Gill Net	GN10	IPF	17W	504512 7976467	504431 7976503	GN10S	GN10D	08-08-2022	8:17	08-08-2022	11:00	2.72	2	Released
8	FHSC	158	35	U	A	Gill Net	GN10	IPF	17W	504512 7976467	504431 7976503	GN10S	GN10D	08-08-2022	8:17	08-08-2022	11:00	2.72	2	Released
9	FHSC	161	35	M	A	Gill Net	GN10	IPF	17W	504512 7976467	504431 7976503	GN10S	GN10D	08-08-2022	8:17	08-08-2022	11:00	2.72	2	Released
10	FHSC	203	90	F	A	Gill Net	GN10	IPF	17W	504512 7976467	504431 7976503	GN10S	GN10D	08-08-2022	8:17	08-08-2022	11:00	2.72	2	Released
11	FHSC	184	50	M	A	Gill Net	GN10	IPF	17W	504512 7976467	504431 7976503	GN10S	GN10D	08-08-2022	8:17	08-08-2022	11:00	2.72	2	Released
12	FHSC	169	45	U	A	Gill Net	GN10	IPF	17W	504512 7976467	504431 7976503	GN10S	GN10D	08-08-2022	8:17	08-08-2022	11:00	2.72	2	Released
13	FHSC	152	35	U	A	Gill Net	GN10	IPF	17W	504512 7976467	504431 7976503	GN10S	GN10D	08-08-2022	8:17	08-08-2022	11:00	2.72	2	Released
1	ARCH	312	340	U	A	Gill Net	GN11	DPF	17W	503147 7976465	503083 7976538	GN11S	GN11D	08-08-2022	15:51	08-08-2022	17:10	1.32	2	Released
2	ARCH	634	3210	U	A	Gill Net	GN11	DPF	17W	503147 7976465	503083 7976538	GN11S	GN11D	08-08-2022	15:51	08-08-2022	17:10	1.32	2	Released
3	ARCH	275	200	U	A	Gill Net	GN11	DPF	17W	503147 7976465	503083 7976538	GN11S	GN11D	08-08-2022	15:51	08-08-2022	17:10	1.32	2	Released
4	FHSC	164	40	M	A	Gill Net	GN11	DPF	17W	503147 7976465	503083 7976538	GN11S	GN11D	08-08-2022	15:51	08-08-2022	17:10	1.32	2	Released
5	FHSC	182	70	M	A	Gill Net	GN11	DPF	17W	503147 7976465	503083 7976538	GN11S	GN11D	08-08-2022	15:51	08-08-2022	17:10	1.32	2	Released
6	FHSC	211	125	F	A	Gill Net	GN11	DPF	17W	503147 7976465	503083 7976538	GN11S	GN11D	08-08-2022	15:51	08-08-2022	17:10	1.32	2	Released
7	FHSC	208	65	M	A	Gill Net	GN11	DPF	17W	503147 7976465	503083 7976538	GN11S	GN11D	08-08-2022	15:51	08-08-2022	17:10	1.32	2	Released
8	FHSC	168	60	M	A	Gill Net	GN11	DPF	17W	503147 7976465	503083 7976538	GN11S	GN11D	08-08-2022	15:51	08-08-2022	17:10	1.32	2	Released
9	FHSC	154	50	U	U	Gill Net	GN11	DPF	17W	503147 7976465	503083 7976538	GN11S	GN11D	08-08-2022	15:51	08-08-2022	17:10	1.32	2	Released
10	FHSC	106	10	U	U	Gill Net	GN11	DPF	17W	503147 7976465	503083 7976538	GN11S	GN11D	08-08-2022	15:51	08-08-2022	17:10	1.32	2	Released
1	FHSC	101	10	U	U	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
2	FHSC	254	220	F	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
3	FHSC	190	70	F	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
4	FHSC	139	40	F	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
5	FHSC	163	50	M	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
6	FHSC	157	35	M	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
7	FHSC	204	180	F	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
8	FHSC	202	80	F	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
9	FHSC	169	65	M	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
10	ARCH	541	2200	M	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Mortality
11	ARCH	700	2860	M	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Mortality
12	ARCH	430	1280	U	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
13	FHSC	188	60	M	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
14	FHSC	188	60	F	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
15	FHSC	206	80	M	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
16	FHSC	192	60	M	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
17	FHSC	175	50	U	U	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
18	FHSC	160	40	U	U	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
19	FHSC	182	60	F	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
20	FHSC	165	50	M	A	Gill Net	GN12	DPF	17W	503016 7976389	502941 7976420	GN12S	GN12D	11-08-2022	8:22	11-08-2022	11:50	3.47	2	Released
1	ARCH	324	500	U	F	Gill Net	GN13	IPF	17W	502691 7976239	502721 7976325	GN13S	GN13E	11-08-2022	8:35	11-08-2022	12:20	3.75	1.5	Mortality
2	ARCH	255	220	U	A	Gill Net	GN13	IPF	17W	502691 7976239	502721 7976325	GN13S	GN13E	11-08-2022	8:35	11-08-2022	12:20	3.75	1.5	Released
3	ARCH	642	3220	U	A	Gill Net	GN13	IPF	17W	502691 7976239	502721 7976325	GN13S	GN13E	11-08-2022	8:35	11-08-2022	12:20	3.75	1.5	Mortality
4	FHSC	204	85	M	A	Gill Net	GN13	IPF	17W	502691 7976239	502721 7976325	GN13S	GN13E	11-08-2022	8:35	11-08-2022	12:20	3.75	1.5	Released
5	FHSC	175	70	M	A	Gill Net	GN13	IPF	17W	502691 7976239	502721 7976325	GN13S	GN13E	11-08-2022	8:35	11-08-2022	12:20	3.75	1.5	Released
1	ARCH	326	350	U	A	Gill Net	GN14	IPF	17W	505265 7977776	505183 7977801	GN14S	GN14D	13-08-2022	10:30	13-08-2022	12:30	2.00	6.5	Released
2	ARCH	385	650	U	A	Gill Net	GN14	IPF	17W	505265 7977776	505183 7977801	GN14S	GN14D	13-08-2022	10:30	13-08-2022	12:30	2.00	6.5	Released
3	ARCH	356	450	U	A	Gill Net	GN14	IPF	17W	505265 7977776	505183 7977801	GN14S	GN14D	13-08-2022	10:30	13-08-2022	12:30	2.00	6.5	Mortality
4	ARCH	225	150	U	A	Gill Net	GN14	IPF	17W	505265 7977776	505183 7977801	GN14S	GN14D	13-08-2022	10:30	13-08-2022	12:30	2.00	6.5	Released
5	ARCH	434	1100	U	A	Gill Net	GN14	IPF	17W	505265 7977776	505183 7977801	GN14S	GN14D	13-08-2022	10:30	13-08-2022	12:30	2.00	6.5	Released
6	ARCH	301	350	U	A	Gill Net	GN14	IPF	17W	505265 7977776	505183 7977801	GN14S	GN14D	13-08-2022	10:30	13-08-2022	12:30	2.00	6.5	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
7	ARCH	315	390	U	U	Gill Net	GN14	IPF	17W	505265 7977776	505183 7977801	GN14S	GN14D	13-08-2022	10:30	13-08-2022	12:30	2.00	6.5	Mortality
1	ARCH	685	3950	U	A	Gill Net	GN15	IPF	17W	505296 7978014	505243 7977967	GN15S	GN15E	13-08-2022	10:40	13-08-2022	12:40	2.00	2.5	Released
2	ARCH	679	4190	U	A	Gill Net	GN15	IPF	17W	505296 7978014	505243 7977967	GN15S	GN15E	13-08-2022	10:40	13-08-2022	12:40	2.00	2.5	Released
3	ARCH	700	3830	U	A	Gill Net	GN15	IPF	17W	505296 7978014	505243 7977967	GN15S	GN15E	13-08-2022	10:40	13-08-2022	12:40	2.00	2.5	Released
4	ARCH	555	2250	U	A	Gill Net	GN15	IPF	17W	505296 7978014	505243 7977967	GN15S	GN15E	13-08-2022	10:40	13-08-2022	12:40	2.00	2.5	Released
5	ARCH	741	4940	U	A	Gill Net	GN15	IPF	17W	505296 7978014	505243 7977967	GN15S	GN15E	13-08-2022	10:40	13-08-2022	12:40	2.00	2.5	Released
6	ARCH	537	2500	U	A	Gill Net	GN15	IPF	17W	505296 7978014	505243 7977967	GN15S	GN15E	13-08-2022	10:40	13-08-2022	12:40	2.00	2.5	Released
7	ARCH	510	1830	U	A	Gill Net	GN15	IPF	17W	505296 7978014	505243 7977967	GN15S	GN15E	13-08-2022	10:40	13-08-2022	12:40	2.00	2.5	Released
8	ARCH	219	140	U	J	Gill Net	GN15	IPF	17W	505296 7978014	505243 7977967	GN15S	GN15E	13-08-2022	10:40	13-08-2022	12:40	2.00	2.5	Mortality
9	ARCH	314	370	U	J	Gill Net	GN15	IPF	17W	505296 7978014	505243 7977967	GN15S	GN15E	13-08-2022	10:40	13-08-2022	12:40	2.00	2.5	Mortality
10	ARCH	222	120	U	J	Gill Net	GN15	IPF	17W	505296 7978014	505243 7977967	GN15S	GN15E	13-08-2022	10:40	13-08-2022	12:40	2.00	2.5	Released
11	FHSC	215	140	F	A	Gill Net	GN15	IPF	17W	505296 7978014	505243 7977967	GN15S	GN15E	13-08-2022	10:40	13-08-2022	12:40	2.00	2.5	Released
1	ARCH	434	1090	-	-	Gill Net	GN16	IPF	17W	505198 7977544	505108 7977590	GN16S	GN16D	13-08-2022	10:55	13-08-2022	12:00	1.08	4.5	Released
2	FHSC	248	200	F	A	Gill Net	GN16	IPF	17W	505198 7977544	505108 7977590	GN16S	GN16D	13-08-2022	10:55	13-08-2022	12:00	1.08	4.5	Released
3	FHSC	232	140	F	A	Gill Net	GN16	IPF	17W	505198 7977544	505108 7977590	GN16S	GN16D	13-08-2022	10:55	13-08-2022	12:00	1.08	4.5	Released
4	FHSC	202	70	M	A	Gill Net	GN16	IPF	17W	505198 7977544	505108 7977590	GN16S	GN16D	13-08-2022	10:55	13-08-2022	12:00	1.08	4.5	Released
5	SHSC	205	110	U	A	Gill Net	GN16	IPF	17W	505198 7977544	505108 7977590	GN16S	GN16D	13-08-2022	10:55	13-08-2022	12:00	1.08	4.5	Released
6	SHSC	230	180	U	A	Gill Net	GN16	IPF	17W	505198 7977544	505108 7977590	GN16S	GN16D	13-08-2022	10:55	13-08-2022	12:00	1.08	4.5	Released
7	FHSC	170	60	M	A	Gill Net	GN16	IPF	17W	505198 7977544	505108 7977590	GN16S	GN16D	13-08-2022	10:55	13-08-2022	12:00	1.08	4.5	Released
1	ARCH	747	4970	U	A	Gill Net	GN17	DPF	17W	502962 7976310	502915 7976399	GN17S	GN17D	13-08-2022	15:20	13-08-2022	16:45	1.42	4.5	Released
2	ARCH	305	390	U	J	Gill Net	GN17	DPF	17W	502962 7976310	502915 7976399	GN17S	GN17D	13-08-2022	15:20	13-08-2022	16:45	1.42	4.5	Released
3	ARCH	334	510	U	J	Gill Net	GN17	DPF	17W	502962 7976310	502915 7976399	GN17S	GN17D	13-08-2022	15:20	13-08-2022	16:45	1.42	4.5	Released
4	ARCH	371	810	U	J	Gill Net	GN17	DPF	17W	502962 7976310	502915 7976399	GN17S	GN17D	13-08-2022	15:20	13-08-2022	16:45	1.42	4.5	Released
5	FHSC	154	30	F	A	Gill Net	GN17	DPF	17W	502962 7976310	502915 7976399	GN17S	GN17D	13-08-2022	15:20	13-08-2022	16:45	1.42	4.5	Released
6	FHSC	168	50	M	A	Gill Net	GN17	DPF	17W	502962 7976310	502915 7976399	GN17S	GN17D	13-08-2022	15:20	13-08-2022	16:45	1.42	4.5	Released
7	FHSC	145	35	F	A	Gill Net	GN17	DPF	17W	502962 7976310	502915 7976399	GN17S	GN17D	13-08-2022	15:20	13-08-2022	16:45	1.42	4.5	Released
8	FHSC	149	45	F	A	Gill Net	GN17	DPF	17W	502962 7976310	502915 7976399	GN17S	GN17D	13-08-2022	15:20	13-08-2022	16:45	1.42	4.5	Released
1	ARCH	632	2750	U	A	Gill Net	GN18	IPF	17W	502390 7976283	502435 7976360	GN18S	GN18D	13-08-2022	15:30	13-08-2022	16:53	1.38	2	Released
2	ARCH	614	2150	U	A	Gill Net	GN18	IPF	17W	502390 7976283	502435 7976360	GN18S	GN18D	13-08-2022	15:30	13-08-2022	16:53	1.38	2	Released
3	ARCH	373	560	U	U	Gill Net	GN18	IPF	17W	502390 7976283	502435 7976360	GN18S	GN18D	13-08-2022	15:30	13-08-2022	16:53	1.38	2	Released
4	ARCH	374	590	U	U	Gill Net	GN18	IPF	17W	502390 7976283	502435 7976360	GN18S	GN18D	13-08-2022	15:30	13-08-2022	16:53	1.38	2	Released
5	ARCH	309	240	U	J	Gill Net	GN18	IPF	17W	502390 7976283	502435 7976360	GN18S	GN18D	13-08-2022	15:30	13-08-2022	16:53	1.38	2	Released
6	ARCH	335	360	U	J	Gill Net	GN18	IPF	17W	502390 7976283	502435 7976360	GN18S	GN18D	13-08-2022	15:30	13-08-2022	16:53	1.38	2	Released
1	ARCH	363	520	U	U	Gill Net	GN19	DPF	17W	504141 7976580	504225 7976637	GN19S	GN19D	14-08-2022	8:50	14-08-2022	12:03	3.22	7.5	Released
2	FHSC	148	45	U	U	Gill Net	GN19	DPF	17W	504141 7976580	504225 7976637	GN19S	GN19D	14-08-2022	8:50	14-08-2022	12:03	3.22	7.5	Released
3	FHSC	144	30	U	U	Gill Net	GN19	DPF	17W	504141 7976580	504225 7976637	GN19S	GN19D	14-08-2022	8:50	14-08-2022	12:03	3.22	7.5	Released
4	FHSC	237	145	M	A	Gill Net	GN19	DPF	17W	504141 7976580	504225 7976637	GN19S	GN19D	14-08-2022	8:50	14-08-2022	12:03	3.22	7.5	Released
5	FHSC	219	100	M	A	Gill Net	GN19	DPF	17W	504141 7976580	504225 7976637	GN19S	GN19D	14-08-2022	8:50	14-08-2022	12:03	3.22	7.5	Released
6	FHSC	231	140	F	A	Gill Net	GN19	DPF	17W	504141 7976580	504225 7976637	GN19S	GN19D	14-08-2022	8:50	14-08-2022	12:03	3.22	7.5	Released
NFC	-	-	-	-	-	Gill Net	GN20	IPF	17W	504761 7976633	504808 7976702	GN20S	GN20D	14-08-2022	9:10	14-08-2022	11:52	2.70	2.5	-
1	ARCH	131	15	U	U	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Released
2	ARCH	590	3000	U	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Released
3	ARCH	690	3780	U	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Mortality
4	ARCH	675	3500	U	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Released
5	ARCH	456	1100	U	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Released
6	ARCH	547	2180	U	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Released
7	ARCH	553	2460	U	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Released
8	ARCH	545	2330	U	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Released
9	ARCH	557	2200	U	U	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Released
10	ARCH	374	600	U	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Released
11	ARCH	376	610	U	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Released
12	ARCH	330	450	U	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Released
13	ARCH	370	550	U	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Released
14	FHSC	200	135	F	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Released
15	ARCH	380	590	M	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Mortality
16	ARCH	444	1040	U	J	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Mortality
17	ARCH	478	1490	F	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Mortality
18	ARCH	451	1030	M	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Mortality
19	ARCH	531	1760	F	A	Gill Net	GN21	IPF	17W	502537 7976250	502579 7976330	GN21S	GN21D	14-08-2022	12:45	14-08-2022	16:11	3.43	5	Mortality
1	ARCH	677	3890	U	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
2	ARCH	775	4350	U	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
3	ARCH	552	2170	U	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
4	ARCH	621	2950	U	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
5	ARCH	477	1510	U	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
6	ARCH	530	2190	U	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
7	ARCH	585	2610	U	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
8	FHSC	233	140	M	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
9	FHSC	196	70	M	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
10	FHSC	210	110	F	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
11	FHSC	154	50	F	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
12	FHSC	190	80	M	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
13	FHSC	222	140	M	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
14	FHSC	174	60	F	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
15	FHSC	145	35	F	U	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
16	ARCH	390	820	F	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Mortality
17	ARCH	590	2620	F	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Mortality
18	ARCH	544	2010	F	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Mortality
19	ARCH	540	2200	M	A	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Mortality
20	ARCH	168	58	U	J	Gill Net	GN22	DPF	17W	503106 7976431	503082 7976516	GN22S	GN22D	14-08-2022	12:52	14-08-2022	16:35	3.72	6.5	Released
NFC	-	-	-	-	-	Gill Net	GNREF1	REF - T	17W	512155 7989017	512071 7988995	GNREF1S	GNREF1D	10-08-2022	10:43	10-08-2022	12:05	1.37	1.5	-
NFC	-	-	-	-	-	Gill Net	GNREF2	REF - T	17W	512013 7988845	511919 7988853	GNREF2S	GNREF2D	10-08-2022	10:55	10-08-2022	12:15	1.33	1.5	-
1	FHSC	282	353	F	A	Hoop Net	HN01	DPF	17W	503008 7976390	- -	HN01	-	01-08-2022	7:44	03-08-2022	10:40	50.93	0.8	Euthanized
2	FHSC	185	68	U	A	Hoop Net	HN01	DPF	17W	503008 7976390	- -	HN01	-	01-08-2022	7:44	03-08-2022	10:40	50.93	0.8	Released
3	FHSC	182	70	M	A	Hoop Net	HN01	DPF	17W	503008 7976390	- -	HN01	-	01-08-2022	7:44	03-08-2022	10:40	50.93	0.8	Released
1	FHSC	282	353	F	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Euthanized
2	FHSC	239	163	M	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Euthanized
3	FHSC	245	215.7	F	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Euthanized
4	FHSC	254	208.2	F	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Euthanized
5	FHSC	260	190.8	F	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Euthanized
6	FHSC	180	57	M	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
7	FHSC	192	71	M	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
8	FHSC	235	104	M	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
9	FHSC	228	114	M	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
10	FHSC	208	75	F	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
11	FHSC	205	81	F	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
12	FHSC	231	128	M	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
13	FHSC	185	66	F	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
14	FHSC	196	77	F	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
15	FHSC	211	95	M	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
16	ARSC	150	37	U	U	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
17	FHSC	285	259.6	F	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Euthanized

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
18	FHSC	229	147.8	M	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Euthanized
19	FHSC	237	120	F	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Euthanized
20	FHSC	233	114.4	M	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Euthanized
21	FHSC	245	159.6	M	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Euthanized
22	FHSC	241	202.3	F	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Euthanized
23	FHSC	212	92	F	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
24	FHSC	197	85	M	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
25	FHSC	157	8	U	U	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
26	FHSC	214	108	M	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
27	FHSC	205	93	F	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
28	FHSC	234	147	F	A	Hoop Net	HN02	DPF	17W	503131 7976472	- -	HN02	-	01-08-2022	8:15	03-08-2022	10:50	50.58	0.8	Released
1	FHSC	153	30	M	J	Hoop Net	HN03	DPF	17W	503444 7976596	- -	HN03	-	03-08-2022	11:27	08-08-2022	16:05	124.63	1.6	Released
2	FHSC	146	30	M	J	Hoop Net	HN03	DPF	17W	503444 7976596	- -	HN03	-	03-08-2022	11:27	08-08-2022	16:05	124.63	1.6	Released
3	FHSC	162	90	M	J	Hoop Net	HN03	DPF	17W	503444 7976596	- -	HN03	-	03-08-2022	11:27	08-08-2022	16:05	124.63	1.6	Released
4	FHSC	230	94.4	M	A	Hoop Net	HN03	DPF	17W	503444 7976596	- -	HN03	-	03-08-2022	11:27	08-08-2022	16:05	124.63	1.6	Euthanized
5	FHSC	143	35	M	A	Hoop Net	HN03	DPF	17W	503444 7976596	- -	HN03	-	03-08-2022	11:27	08-08-2022	16:05	124.63	1.6	Released
6	FHSC	233	150	M	A	Hoop Net	HN03	DPF	17W	503444 7976596	- -	HN03	-	03-08-2022	11:27	08-08-2022	16:05	124.63	1.6	Released
7	FHSC	158	50	F	A	Hoop Net	HN03	DPF	17W	503444 7976596	- -	HN03	-	03-08-2022	11:27	08-08-2022	16:05	124.63	1.6	Released
8	FHSC	144	40	M	U	Hoop Net	HN03	DPF	17W	503444 7976596	- -	HN03	-	03-08-2022	11:27	08-08-2022	16:05	124.63	1.6	Released
9	FHSC	135	35	M	U	Hoop Net	HN03	DPF	17W	503444 7976596	- -	HN03	-	03-08-2022	11:27	08-08-2022	16:05	124.63	1.6	Released
10	FHSC	132	25	M	U	Hoop Net	HN03	DPF	17W	503444 7976596	- -	HN03	-	03-08-2022	11:27	08-08-2022	16:05	124.63	1.6	Released
11	FHSC	144	50	M	U	Hoop Net	HN03	DPF	17W	503444 7976596	- -	HN03	-	03-08-2022	11:27	08-08-2022	16:05	124.63	1.6	Released
12	FHSC	139	55	M	U	Hoop Net	HN03	DPF	17W	503444 7976596	- -	HN03	-	03-08-2022	11:27	08-08-2022	16:05	124.63	1.6	Released
13	FHSC	143	50	M	U	Hoop Net	HN03	DPF	17W	503444 7976596	- -	HN03	-	03-08-2022	11:27	08-08-2022	16:05	124.63	1.6	Released
1	FHSC	210	85	M	A	Hoop Net	HN04	DPF	17W	503929 7976592	- -	HN04	-	03-08-2022	12:06	08-08-2022	16:30	124.40	1.5	Released
2	FHSC	165	70	M	A	Hoop Net	HN04	DPF	17W	503929 7976592	- -	HN04	-	03-08-2022	12:06	08-08-2022	16:30	124.40	1.5	Released
3	FHSC	160	50	F	A	Hoop Net	HN04	DPF	17W	503929 7976592	- -	HN04	-	03-08-2022	12:06	08-08-2022	16:30	124.40	1.5	Released
4	FHSC	135	30	M	A	Hoop Net	HN04	DPF	17W	503929 7976592	- -	HN04	-	03-08-2022	12:06	08-08-2022	16:30	124.40	1.5	Released
5	FHSC	134	30	F	A	Hoop Net	HN04	DPF	17W	503929 7976592	- -	HN04	-	03-08-2022	12:06	08-08-2022	16:30	124.40	1.5	Released
NFC	-	-	-	-	-	Hoop Net	HN05	IPF	17W	504564 7976631	- -	HN05	-	08-08-2022	16:12	13-08-2022	7:30	111.30	1.5	-
1	FHSC	202	100	M	A	Hoop Net	HN06	DPF	17W	504131 7976549	- -	HN06	-	08-08-2022	16:47	13-08-2022	7:30	110.72	1	Released
NFC	-	-	-	-	-	Hoop Net	HN07	IPF	17W	504558 7976647	- -	HN07	-	13-08-2022	7:36	15-08-2022	8:50	49.23	1.5	-
1	FHSC	176	50	M	A	Hoop Net	HN08	DPF	17W	503050 7976442	- -	HN08	-	13-08-2022	9:00	14-08-2022	8:10	23.17	1.15	Released
2	FHSC	219	70	M	A	Hoop Net	HN08	DPF	17W	503050 7976442	- -	HN08	-	13-08-2022	9:00	14-08-2022	8:10	23.17	1.15	Released
3	SHSC	175	80	U	A	Hoop Net	HN08	DPF	17W	503050 7976442	- -	HN08	-	13-08-2022	9:00	14-08-2022	8:10	23.17	1.15	Released
4	FHSC	188	70	F	A	Hoop Net	HN08	DPF	17W	503050 7976442	- -	HN08	-	13-08-2022	9:00	14-08-2022	8:10	23.17	1.15	Released
5	FHSC	220	130	M	A	Hoop Net	HN08	DPF	17W	503050 7976442	- -	HN08	-	13-08-2022	9:00	14-08-2022	8:10	23.17	1.15	Released
NFC	-	-	-	-	-	Hoop Net	HN09	IPF	17W	504366 7976489	- -	HN09	-	14-08-2022	8:30	15-08-2022	8:55	24.42	1.75	-
1	STSC	131	30	U	U	Trawling	TR01	IPF	17W	502058 7977608	502490 7978248	TR01S	TR01E	15-08-2022	13:41	15-08-2022	14:09	0.47	50	Released
2	RBSC	114	10	U	U	Trawling	TR01	IPF	17W	502058 7977608	502490 7978248	TR01S	TR01E	15-08-2022	13:41	15-08-2022	14:09	0.47	50	Released
3	RBSC	117	15	U	U	Trawling	TR01	IPF	17W	502058 7977608	502490 7978248	TR01S	TR01E	15-08-2022	13:41	15-08-2022	14:09	0.47	50	Released
4	RBSC	117	10	U	U	Trawling	TR01	IPF	17W	502058 7977608	502490 7978248	TR01S	TR01E	15-08-2022	13:41	15-08-2022	14:09	0.47	50	Released
5	RBSC	122	10	U	U	Trawling	TR01	IPF	17W	502058 7977608	502490 7978248	TR01S	TR01E	15-08-2022	13:41	15-08-2022	14:09	0.47	50	Released
6	RBSC	109	10	U	U	Trawling	TR01	IPF	17W	502058 7977608	502490 7978248	TR01S	TR01E	15-08-2022	13:41	15-08-2022	14:09	0.47	50	Released
7	RBSC	95	5	U	U	Trawling	TR01	IPF	17W	502058 7977608	502490 7978248	TR01S	TR01E	15-08-2022	13:41	15-08-2022	14:09	0.47	50	Released
8	RBSC	96	5	U	U	Trawling	TR01	IPF	17W	502058 7977608	502490 7978248	TR01S	TR01E	15-08-2022	13:41	15-08-2022	14:09	0.47	50	Released
9	RBSC	113	10	U	U	Trawling	TR01	IPF	17W	502058 7977608	502490 7978248	TR01S	TR01E	15-08-2022	13:41	15-08-2022	14:09	0.47	50	Released
10	POCD	105	10	U	U	Trawling	TR01	IPF	17W	502058 7977608	502490 7978248	TR01S	TR01E	15-08-2022	13:41	15-08-2022	14:09	0.47	50	Euthanized
11	SPSC	64	5	U	U	Trawling	TR01	IPF	17W	502058 7977608	502490 7978248	TR01S	TR01E	15-08-2022	13:41	15-08-2022	14:09	0.47	50	Euthanized
12	SPSC	59	3	U	U	Trawling	TR01	IPF	17W	502058 7977608	502490 7978248	TR01S	TR01E	15-08-2022	13:41	15-08-2022	14:09	0.47	50	Released
1	POCD	87	9.4	U	J	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
2	STSC	145	46.6	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
3	STSC	93	12	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
4	STSC	142	36.1	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
5	STSC	127	26.8	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
6	STSC	138	33.7	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
7	STSC	124	15.6	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Mortality
8	STSC	99	13.7	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
9	RBSC	113	10.4	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
10	RBSC	115	9.8	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
11	RBSC	102	7.3	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
12	RBSC	104	7.4	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
13	RBSC	121	11.3	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
14	RBSC	112	8.9	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
15	SPSC	70	4.8	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
16	SPSC	68	4.1	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
17	SPSC	63	2.4	U	U	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Released
18	POCD	72	2.2	U	J	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Mortality
19	POCD	72	2.4	U	J	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Mortality
20	POCD	72	3	U	J	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Mortality
21	POCD	72	2.2	U	J	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Mortality
22	POCD	74	2.8	U	J	Trawling	TR02	DPF	17W	502305 7976619	503338 7976862	TR02S	TR02E	15-08-2022	15:13	15-08-2022	15:54	0.68	30	Mortality

[1] NFC = no fish caught

[2] ARCH = Arctic Char; ARSC = Arctic Sculpin; FHSC = Fourhorn Sculpin; GRCD = Pacific Cod (previously Greenland Cod); HBEP = Half-barred Eelpout; POCD = Polar Cod; RBSC = Ribbed Sculpin; SAEP = Saddled Eelpout; SHSC = Shorthorn Sculpin; SPSC = Spatulate Sculpin; STSC = Arctic Staghorn Sculpin

[3] M = Male; F = Female; U = Unknown

[4] A = Adult; J = Juvenile; F = Fry; U = Uknown

[5] DPF = Direct Project Footprint; IPF = Indirect Project Footprint; REF-K = Chapter 7.0 fish health reference exploration in Koluktoo Bay; REF-T = Chapter 7.0 fish health reference exploration in Tugaat River

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
1	GRCD	-	-	-	-	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Observed
2	FHSC	187	50	U	U	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Released
3	FHSC	199	70	U	U	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Released
4	FHSC	197	60	U	U	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Released
5	FHSC	265	263.8	F	A	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Euthanized
6	FHSC	259	181.7	F	A	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Euthanized
7	FHSC	248	161	M	A	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Euthanized
8	FHSC	204	87.8	M	A	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Euthanized
9	FHSC	275	252.2	F	A	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Euthanized
10	FHSC	218	110	F	A	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Euthanized
11	FHSC	253	157.5	M	A	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Euthanized
12	FHSC	276	213.1	F	A	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Euthanized
13	FHSC	229	109.8	M	A	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Euthanized
14	FHSC	225	105.1	F	A	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Euthanized
15	FHSC	227	111.9	M	A	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Euthanized
16	FHSC	259	183.2	F	A	Angling - Jigging	ANJ01	DPF	17W	0503224 7976600	0503144 7976512	ANJ01A	ANJ01B	28-07-2023	9:45	2023-07-28	10:30	0.75	3	Euthanized
1	GRCD	455	900	U	A	Angling - Jigging	ANJ02	DPF	17W	0503218 7976598	-	ANJ02	-	29-07-2023	10:28	2023-07-29	10:54	0.43	10	Released
2	GRCD	397	600	U	A	Angling - Jigging	ANJ02	DPF	17W	0503218 7976598	-	ANJ02	-	29-07-2023	10:28	2023-07-29	10:54	0.43	10	Released
3	GRCD	445	1100	U	A	Angling - Jigging	ANJ02	DPF	17W	0503218 7976598	-	ANJ02	-	29-07-2023	10:28	2023-07-29	10:54	0.43	10	Released
1	FHSC	166	40	U	U	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Released
2	FHSC	162	30	U	U	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Released
3	FHSC	174	40	U	U	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Released
4	FHSC	195	60	U	U	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Released
5	FHSC	195	60	U	U	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Released
6	FHSC	223	128.9	M	A	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Euthanized
7	FHSC	205	97.5	M	A	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Euthanized
8	FHSC	246	174.1	F	A	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Euthanized
9	FHSC	224	100.5	M	A	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Euthanized
10	FHSC	281	240.8	M	A	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Euthanized
11	FHSC	225	177	F	A	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Euthanized
12	FHSC	210	90.5	M	A	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Euthanized
13	FHSC	230	128.6	F	A	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Euthanized
14	FHSC	224	93.8	M	A	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Euthanized
15	FHSC	212	94.1	M	A	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Euthanized
16	FHSC	203	76.4	M	A	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Euthanized
17	ARCH	557	1350.6	M	A	Angling - Jigging	ANJ03	DPF	17W	0503207 7976559	-	ANJ03	-	29-07-2023	13:07	2023-07-29	13:33	0.43	2	Mortality
1	GRCD	572	-	U	A	Angling - Jigging	ANJ04	DPF	17W	0503225 7976599	-	ANJ04	-	30-07-2023	10:50	2023-07-30	11:30	0.67	13	Released
2	GRCD	581	-	M	A	Angling - Jigging	ANJ04	DPF	17W	0503225 7976599	-	ANJ04	-	30-07-2023	10:50	2023-07-30	11:30	0.67	13	Released
1	FHSC	275	200	M	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Released
2	FHSC	233	150	M	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Released
3	FHSC	260	180	M	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Released
4	FHSC	225	130	M	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Released
5	FHSC	276	190	M	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Released
6	FHSC	183	57	F	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Released
7	FHSC	186	60	F		Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Released
8	SHSC	275	276.9	M	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Euthanized
9	SHSC	286	337.7	M	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Euthanized
10	SHSC	345	556.6	F	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Euthanized
11	SHSC	205	112.5	M	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Euthanized
12	SHSC	175	80.3	M	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Euthanized
13	SHSC	165	52.3	F	J	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Euthanized
14	SHSC	162	235	M	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Euthanized
15	FHSC	215	93.4	M	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Mortality
16	FHSC	274	243	F	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Euthanized
17	FHSC	256	164	F	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Euthanized
18	FHSC	323	329	F	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Euthanized
19	FHSC	256	170.5	F	A	Angling - Jigging	ANJ05	IPF	17W	0505307 7977977	-	ANJ05	-	31-07-2023	9:00	2023-07-31	11:20	2.33	2	Euthanized
1	STSC	207	103	F	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Released
2	GRCD	408	700	U	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Released
3	GRCD	466	1000	U	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Released
4	SHSC	371	307	F	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Euthanized
5	SHSC	200	95	F	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Euthanized
6	SHSC	259	209	F	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Euthanized
7	SHSC	307	426	F	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Euthanized
8	SHSC	190	94.2	F	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Euthanized
9	SHSC	235	145	M	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Euthanized
10	SHSC	199	103.2	M	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Euthanized
11	SHSC	200	100.1	M	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Mortality
12	SHSC	230	144.7	F	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Mortality
13	FHSC	175	54.5	F	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Mortality
14	FHSC	220	139.4	F	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Mortality
15	SHSC	257	125.7	F	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Mortality
16	SHSC	185	96.7	M	A	Angling - Jigging	ANJ06	REF - K	17W	0509017 8000858	-	ANJ06	-	01-08-2023	10:00	2023-08-01	11:10	1.17	5	Mortality
1	SHSC	345	528	F	A	Angling - Jigging	ANJ07	REF - K	17W	0508861 8000848	-	ANJ07	-	01-08-2023	11:45	2023-08-01	12:42	0.95	5	Euthanized
2	SHSC	290	296	F	A	Angling - Jigging	ANJ07	REF - K	17W	0508861 8000848	-	ANJ07	-	01-08-2023	11:45	2023-08-01	12:42	0.95	5	Euthanized
3	SHSC	195	92	M	A	Angling - Jigging	ANJ07	REF - K	17W	0508861 8000848	-	ANJ07	-	01-08-2023	11:45	2023-08-01	12:42	0.95	5	Euthanized
4	SHSC	235	173	F	A	Angling - Jigging	ANJ07	REF - K	17W	0508861 8000848	-	ANJ07	-	01-08-2023	11:45	2023-08-01	12:42	0.95	5	Euthanized
5	SHSC	235	161.5	M	A	Angling - Jigging	ANJ07	REF - K	17W	0508861 8000848	-	ANJ07	-	01-08-2023	11:45	2023-08-01	12:42	0.95	5	Euthanized
6	SHSC	190	83.4	M	A	Angling - Jigging	ANJ07	REF - K	17W	0508861 8000848	-	ANJ07	-	01-08-2023	11:45	2023-08-01	12:42	0.95	5	Euthanized
7	SHSC	221	124.8	F	A	Angling - Jigging	ANJ07	REF - K	17W	0508861 8000848	-	ANJ07	-	01-08-2023	11:45	2023-08-01	12:42	0.95	5	Euthanized
8	SHSC	194	79.7	M	A	Angling - Jigging	ANJ07	REF - K	17W	0508861 8000848	-	ANJ07	-	01-08-2023	11:45	2023-08-01	12:42	0.95	5	Euthanized
9	SHSC	195	88.8	M	A	Angling - Jigging	ANJ07	REF - K	17W	0508861 8000848	-	ANJ07	-	01-08-2023	11:45	2023-08-01	12:42	0.95	5	Euthanized
10	SHSC	176	55.1	M	A	Angling - Jigging	ANJ07	REF - K	17W	0508861 8000848	-	ANJ07	-	01-08-2023	11:45	2023-08-01	12:42	0.95	5	Euthanized
11	ARSC	161	60.5	U	A	Angling - Jigging	ANJ07	REF - K	17W	0508861 8000848	-	ANJ07	-	01-08-2023	11:45	2023-08-01	12:42	0.95	5	Mortality
1	SHSC	278	299	F	A	Angling - Jigging	ANJ08	DPF	17W	0503976 7976671	-	ANJ08	-	02-08-2023	10:25	2023-08-02	10:45	0.33	5	Euthanized
2	SHSC	247	190	F	A	Angling - Jigging	ANJ08	DPF	17W	0503976 7976671	-	ANJ08	-	02-08-2023	10:25	2023-08-02	10:45	0.33	5	Euthanized
3	SHSC	362	499	F	A	Angling - Jigging	ANJ08	DPF	17W	0503976 7976671	-	ANJ08	-	02-08-2023	10:25	2023-08-02	10:45	0.33	5	Euthanized
4	SHSC	283	298	F	A	Angling - Jigging	ANJ08	DPF	17W	0503976 7976671	-	ANJ08	-	02-08-2023	10:25	2023-08-02	10:45	0.33	5	Euthanized
1	FHSC	226	110	M	A	Angling - Jigging	ANJ09	DPF	17W	0503221 7976580	-	ANJ09	-	02-08-2023	10:55	2023-08-02	11:08	0.22	3	Released
2	FHSC	209	120	F	A	Angling - Jigging	ANJ09	DPF	17W	0503221 7976580	-	ANJ08	-	02-08-2023	10:55	2023-08-02	11:08	0.22	3	Released
3	FHSC	270	175	F	A	Angling - Jigging	ANJ09	DPF	17W	0503221 7976580	-	ANJ09	-	02-08-2023	10:55	2023-08-02	11:08	0.22	3	Euthanized
1	SHSC					Angling - Jigging	ANJ10	DPF	17W	0503296 7976666	-	ANJ10	-	06-08-2023	11:15	2023-08-06	11:45	0.50	20	Released
NFC	-	-	-	-	-	Angling - Jigging	ANJ11	DPF	17W	0503245 7976645	-	ANJ11	-	06-08-2023	11:48	2023-08-06	12:05	0.28	20	-
1	GRCD					Angling - Jigging	ANJ12	IPF	17W	0505738 7978462	-	ANJ12	-	06-08-2023	15:21	2023-08-06	15:42	0.35	12.5	Released
NFC	-	-	-	-	-	Angling - Jigging	ANJ13	IPF	17W	0505280 7978016	-	ANJ13	-	06-08-2023	16:11	2023-08-06	16:27	0.27	5	-
1	ARSC					Angling - Jigging	ANJ14	REF - K	17X	0509105 8000811	-	ANJ14	-	08-08-2023	13:06	2023-08-08	13:26	0.33	3	Released
2	SHSC					Angling - Jigging	ANJ14	REF - K	17X	0509105 8000811	-	ANJ14	-	08-08-2023	13:06	2023-08-08	13:26	0.33	3	Released
3	SHSC					Angling - Jigging	ANJ14	REF - K	17X	0509105 8000811	-	ANJ14	-	08-08-2023	13:06	2023-08-08	13:26	0.33	3	Euthanized
4	SHSC					Angling - Jigging	ANJ14	REF - K	17X	0509105 8000811	-	ANJ14	-	08-08-2023	13:06	2023-08-08	13:26	0.33	3	Euthanized
5	SHSC					Angling - Jigging	ANJ14	REF - K	17X	0509105 8000811	-	ANJ14	-	08-08-2023	13:06	2023-08-08	13:26	0.33	3	Euthanized
NFC	-	-	-	-	-	Angling - Jigging	ANJ15	IPF	17W	0502306 7976187	-	ANJ15	-	10-08-2023	8:49	2023-08-10	9:04	0.25	1.5	-
NFC	-	-	-	-	-	Angling - Jigging	ANJ16	IPF	17W	0501494 7976914	-	ANJ16	-	10-08-2023	15:38	2023-08-10	15:55	0.28	1.5	-
NFC	-	-	-	-	-	Angling - Jigging	ANJ17	IPF	17W	0501905 7977898	-	ANJ17	-	13-08-2023	10:02	2023-08-13	10:22	0.33	3	-
NFC	-	-	-	-	-	Angling - Jigging	ANJ18	IPF	17W	0501806 7977478	-	ANJ18	-	13-08-2023	10:46	2023-08-13	11:02	0.27	2	-
1	FHSC					Angling - Jigging	ANJ19	IPF	17W	0501718 7977249	-	ANJ19	-	13-08-2023	11:20	2023-08-13	11:50	0.50	3	Released
2	FHSC					Angling - Jigging	ANJ19	IPF	17W	0501718 7977249	-	ANJ19		13-08-2023	11:20	2023-08-13	11:50	0.50	3	Released
3	FHSC					Angling - Jigging	ANJ19	IPF	17W	0501718 7977249	-	ANJ19		13-08-2023	11:20	2023-08-13	11:50	0.50	3	Released
4	FHSC					Angling - Jigging	ANJ19	IPF	17W	0501718 7977249	-	ANJ19		13-08-2023	11:20	2023-08-13	11:50	0.50	3	Released
NFC	-	-	-	-	-	Angling - Trolling	ANT01	DPF	17W	0503143 7976604	0503017 7976495	ANT011	-	29-07-2023	10:20	2023-07-29	10:20	0.33	15	
NFC	-	-	-	-	-	Angling - Trolling	ANT02	IPF	17W	0505692 7978486	0505778 7978488	ANT02A	ANT02B	04-08-2023	15:10	2023-08-04	15:35	0.42	35	-
1	SHSC	326	490	F	A	Angling - Trolling	ANT03	IPF	17W	0505291 7978113	0505128 7977652	ANT03A	ANT03B	04-08-2023	15:40	2023-08-04	16:00	0.33	12.5	Released
2	SHSC	336	520	F	A	Angling - Trolling	ANT03	IPF	17W	0505291 7978113	0505128 7977652	ANT03A	ANT03B	04-08-2023	15:40	2023-08-04	16:00	0.33	12.5	Released
1	FHSC	231	100	F	A	Angling - Trolling	ANT04	IPF	17W	0505183 7977558	0505124 7977096	ANT04A	ANT04B	04-08-2023	16:22	2023-08-04	16:37	0.25	10	Released
NFC	-	-	-	-	-	Angling - Trolling	ANT05	IPF	17W	0505034 7976623	0504629 7976673	ANT05A	ANT05B	04-08-2023	16:40	2023-08-04	16:50	0.17	10	-
NFC	-	-	-	-	-	Angling - Trolling	ANT06	IPF	17W	0501529 7976416	0501629 7976673	ANT06A	ANT06B	05-08-2023	13:13	2023-08-05	13:35	0.37	5	-
NFC	-	-	-	-	-	Angling - Trolling	ANT07	IPF	17W	0501637 7976990	0501995 7977690	ANT07A	ANT07B	05-08-2023	14:28	2023-08-05	14:48	0.33	3	-
NFC	-	-	-	-	-	Angling - Trolling	ANT08	IPF	17W	0501940 7977707	0501624 7977149	ANT08A	ANT08B	05-08-2023	14:55	2023-08-05	15:16	0.35	5	-
NFC	-	-	-	-	-	Angling - Trolling	ANT09	DPF	17W	0503411 7976668	0503349 7976678	ANT09A	ANT09B	06-08-2023	10:36	2023-08-06	10:50	0.23	20	-
NFC	-	-	-	-	-	Angling - Trolling	ANT10	DPF	17W	0503411 7976668	0503349 7976678	ANT10A	ANT10B	06-08-2023	10:53	2023-08-06	11:08	0.25	26	-
NFC	-	-	-	-	-	Angling - Trolling	ANT11	DPF	17W	0504503 7976625	0504493 7976646	ANT11A	ANT11B	13-08-2023	14:23	2023-08-13	14:38	0.25	15	-
NFC	-	-	-	-	-	Angling - Trolling	ANT12	DPF	17W	0504038 7976594	0503927 7976547	ANT12A	ANT12B	13-08-2023	14:43	2023-08-13	14:54	0.18	4	-
NFC	-	-	-	-	-	Angling - Trolling	ANT13	DPF	17W	0503124 7976573	0502741 7976355	ANT13A	ANT13B	13-08-2023	15:05	2023-08-13	15:22	0.28	20	-
NFC	-	-	-	-	-	Angling - Trolling	ANT14	DPF	17W	0502725 7976303	0503005 7976436	ANT14A	ANT14N	13-08-2023	15:24	2023-08-13	15:34	0.17	3	-
NFC	-	-	-	-	-	Fukui Trap	FT01	DPF	17W	0504496 7976588	-	FT01	-	29-07-2023	9:26	2023-07-31	8:30	47.07	2	-
1	FHSC	134	10	U	J	Fukui Trap	FT02	IPF	17W	0502948 7976384	-	FT02	-	29-07-2023	9:38	2023-07-31	8:00	46.37	2	Released
2	FHSC	225	100	F	A	Fukui Trap	FT02	IPF	17W	0502948 7976384	-	FT02	-	29-07-2023	9:38	2023-07-31	8:00	46.37	2	Released
NFC	-	-	-	-	-	Fukui Trap	FT03	DPF	17W	0503114 7976517	-	FT03	-	31-07-2023	8:07	2023-08-02	9:43	49.60	5	-
NFC	-	-	-	-	-	Fukui Trap	FT04	IPF	17W	0504771 7976712	-	FT04	-	31-07-2023	8:35	2023-08-02	10:14	49.65	5	-
NFC	-	-	-	-	-	Fukui Trap	FT05	DPF	17W	0503175 7976572	-	FT05	-	02-08-2023	9:45	2023-08-04	7:58	46.22	10	-
NFC	-	-	-	-	-	Fukui Trap	FT06	IPF	17W	0504957 7976590	-	FT06	-	02-08-2023	10:20	2023-08-04	8:07	45.78	5	-
NFC	-	-	-	-	-	Fukui Trap	FT07	DPF	17W	0503877 7976698	-	FT07	-	04-08-2023	8:22	2023-08-06	10:12	49.83	10	-

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
NFC	-	-	-	-	-	Fukui Trap	FT08	DPF	17W	0503577 7976664	-	FT08	-	04-08-2023	8:26	2023-08-06	10:27	50.02	5	-
1	ARSC	237	155	U	U	Fukui Trap	FT09	DPF	17W	0503442 7976657	-	FT09	-	06-08-2023	10:30	2023-08-09	11:30	73.00	7	Released
NFC	-	-	-	-	-	Fukui Trap	FT10	DPF	17W	0504034 7976682	-	FT10	-	06-08-2023	10:21	2023-08-09	11:17	72.93	8	-
NFC	-	-	-	-	-	Fukui Trap	FT11	IPF	17W	0504711 7976719	-	FT11	-	10-08-2023	14:59	2023-08-13	8:00	65.02	10	-
-	UNSC	-	-	-	-	Fukui Trap	FT11	IPF	17W	0504711 7976719	-	FT11	-	10-08-2023	14:59	2023-08-13	8:00	65.02	10	Observed
NFC	-	-	-	-	-	Fukui Trap	FT12	IPF	17W	0504624 7976720	-	FT12	-	10-08-2023	15:01	2023-08-13	8:03	65.03	7	-
1	POCD	70	5	U	J	Fukui Trap	FT13	IPF	17W	0501561 7976478	-	FT13	-	13-08-2023	8:35	2023-08-14	10:05	25.50	15	Mortality
NFC	-	-	-	-	-	Fukui Trap	FT14	IPF	17W	0501530 7976417	-	FT14	-	13-08-2023	8:32	2023-08-14	10:00	25.47	8	-
1	FHSC	220	100	F	A	Hoop Net	HN01	DPF	17W	0503015 7976396	-	HN01	-	29-07-2023	8:15	2023-07-31	7:30	47.25	1	Released
NFC	-	-	-	-	-	Hoop Net	HN02	IPF	17W	0504564 7976605	-	HN02	-	29-07-2023	4:15	2023-07-31	8:20	52.08	1	-
NFC	-	-	-	-	-	Hoop Net	HN03	DPF	17W	0503140 7976453	-	HN03	-	31-07-2023	7:40	2023-08-02	9:12	49.53	1	-
NFC	-	-	-	-	-	Hoop Net	HN04	IPF	17W	0504559 7976603	-	HN04	-	31-07-2023	8:20	2023-08-02	9:53	49.55	1	-
1	FHSC	255	130	M	A	Hoop Net	HN05	DPF	17W	0503132 7976473	-	HN05	-	02-08-2023	8:05	2023-08-04	7:41	47.60	0.5	Released
2	FHSC	266	160	F	A	Hoop Net	HN05	DPF	17W	0503132 7976473	-	HN05	-	02-08-2023	8:05	2023-08-04	7:41	47.60	0.5	Released
NFC	-	-	-	-	-	Hoop Net	HN06	IPF	17W	0504575 7976638	-	HN06	-	02-08-2023	9:50	2023-08-04	7:50	46.00	1	-
1	FHSC	201	60	F	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
2	FHSC	215	90	M	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
3	FHSC	222	95	M	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
4	FHSC	196	90	M	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
5	FHSC	240	130	F	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
6	FHSC	209	60	F	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
7	FHSC	190	45	M	J	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
8	FHSC	196	60	F	J	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
9	FHSC	201	45	F	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
10	FHSC	215	80	F	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
11	FHSC	242	170	F	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
12	FHSC	204	80	F	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
13	FHSC	235	100	M	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
14	FHSC	240	140	F	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
15	FHSC	225	110	M	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
16	FHSC	148	25	U	J	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
17	FHSC	226	120	M	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
18	FHSC	204	70	M	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
19	FHSC	230	90	M	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
20	FHSC	206	60	M	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
21	SHSC	259	210	F	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
22	FHSC	201	50	M	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
23	FHSC	219	70	M	A	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
24	FHSC	152	20	U	J	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
25	FHSC	134	10	U	J	Hoop Net	HN07	DPF	17W	0503866 7976662	-	HN07	-	04-08-2023	8:49	2023-08-06	9:25	48.60	1	Released
1	FHSC	163	30	U	J	Hoop Net	HN08	DPF	17W	0503515 7976631	-	HN08	-	04-08-2023	8:35	2023-08-06	9:55	49.33	1	Released
2	FHSC	149	30	U	J	Hoop Net	HN08	DPF	17W	0503515 7976631	-	HN08	-	04-08-2023	8:35	2023-08-06	9:55	49.33	1	Released
1	FHSC	243	110	M	A	Hoop Net	HN09	DPF	17W	0503509 7976609	-	HN09	-	06-08-2023	9:30	2023-08-09	11:26	73.93	1	Released
2	FHSC	226	100	M	A	Hoop Net	HN09	DPF	17W	0503509 7976609	-	HN09	-	06-08-2023	9:30	2023-08-09	11:26	73.93	1	Released
1	FHSC	153	20	U	J	Hoop Net	HN10	DPF	17W	0503866 7976603	-	HN10	-	06-08-2023	10:05	2023-08-09	13:30	75.42	1	Released
2	FHSC	160	40	U	J	Hoop Net	HN10	DPF	17W	0503866 7976603	-	HN10	-	06-08-2023	10:05	2023-08-09	13:30	75.42	1	Released
3	FHSC	144	10	U	J	Hoop Net	HN10	DPF	17W	0503866 7976603	-	HN10	-	06-08-2023	10:05	2023-08-09	13:30	75.42	1	Released
4	FHSC	196	80	M	A	Hoop Net	HN10	DPF	17W	0503866 7976603	-	HN10	-	06-08-2023	10:05	2023-08-09	13:30	75.42	1	Released
NFC	-	-	-	-	-	Hoop Net	HN11	IPF	17W	0504722 7976651	-	HN11	-	10-08-2023	14:28	2023-08-13	7:45	65.28	-	-
NFC	-	-	-	-	-	Hoop Net	HN12	IPF	17W	0504674 7976642	-	HN12	-	10-08-2023	14:36	2023-08-13	7:50	65.23	0.5	-
NFC	-	-	-	-	-	Hoop Net	HN13	IPF	17W	0501503 7976519	-	HN13	-	13-08-2023	8:19	2023-08-14	9:40	25.35	0.5	-
1	FHSC	269	180	F	A	Hoop Net	HN14	IPF	17W	0501462 7976504	-	HN14	-	13-08-2023	8:29	2023-08-14	9:50	25.35	0.5	Released
2	FHSC	266	185	F	A	Hoop Net	HN14	IPF	17W	0501462 7976504	-	HN14	-	13-08-2023	8:29	2023-08-14	9:50	25.35	0.5	Released
3	FHSC	235	120	F	A	Hoop Net	HN14	IPF	17W	0501462 7976504	-	HN14	-	13-08-2023	8:29	2023-08-14	9:50	25.35	0.5	Released
4	FHSC	204	80	F	A	Hoop Net	HN14	IPF	17W	0501462 7976504	-	HN14	-	13-08-2023	8:29	2023-08-14	9:50	25.35	0.5	Released
1	ARCH	-	-	U	U	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Mortality
2	ARCH	-	-	U	U	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Mortality
3	ARCH	-	-	U	U	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Mortality
4	ARCH	469	1100	U	U	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Released
5	FHSC	180	50	U	U	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Released
6	FHSC	174	45	U	U	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Released
7	FHSC	152	30	U	U	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Released
8	FHSC	189	50	U	U	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Released
9	FHSC	265	225.9	F	A	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Euthanized
10	FHSC	214	92.2	M	A	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Euthanized
11	FHSC	239	154.6	M	A	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Euthanized
12	FHSC	225	121.4	M	A	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Euthanized
13	FHSC	248	165.2	F	A	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Euthanized
14	ARCH	434	1050	U	U	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Released
15	ARCH	452	1000	U	U	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Released
16	ARCH	435	950	U	U	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Released
17	ARCH	434	1050	U	U	Gill Net	GN01	DPF	17W	503145 7976456	503120 7976527	GN01A	GN01B	28-07-2023	8:16	2023-07-28	11:20	3.07	7.5	Released
1	FHSC	205	65	U	U	Gill Net	GN02	DPF	17W	502600 7976233	502637 7976299	GN02A	GN02B	29-07-2023	9:50	2023-07-29	12:25	2.58	2	Released
2	ARCH	123	20	U	U	Gill Net	GN02	DPF	17W	502600 7976233	502637 7976299	GN02A	GN02B	29-07-2023	9:50	2023-07-29	12:25	2.58	2	Mortality
3	ARCH	-	-	U	U	Gill Net	GN02	DPF	17W	502600 7976233	502637 7976299	GN02A	GN02B	29-07-2023	9:50	2023-07-29	12:25	2.58	2	Mortality
NFC	-	-	-	-	-	Gill Net	GN03	DPF	17W	502970 7976481	502899 7976405	GN03A	GN03A	29-07-2023	12:20	2023-07-29	13:45	1.42	13.5	-
1	ARCH	580	1700	U	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
2	ARCH	499	1400	U	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
3	ARCH	438	1000	U	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Mortality
4	FHSC	259	200	U	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
5	FHSC	227	150	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
6	FHSC	265	210	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
7	FHSC	261	240	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
8	FHSC	222	100	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
9	FHSC	216	80	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
10	FHSC	239	120	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
11	FHSC	234	150	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
12	FHSC	212	90	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
13	FHSC	209	120	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
14	FHSC	211	100	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
15	FHSC	227	120	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
16	FHSC	168	50	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
17	FHSC	214	110	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
18	FHSC	179	60	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
19	FHSC	232	140	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
20	FHSC	235	140	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
21	FHSC	226	110	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
22	FHSC	194	70	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
23	FHSC	220	140	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
24	FHSC	210	100	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
25	FHSC	273	260	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
26	FHSC	209	110	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
27	FHSC	152	20	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
28	FHSC	174	50	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
29	FHSC	255	150	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
30	FHSC	253	190	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
31	FHSC	151	30	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
32	FHSC	184	50	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
33	FHSC	201	80	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
34	FHSC	177	50	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
35	FHSC	179	40	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
36	FHSC	213	100	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
37	FHSC	186	50	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
38	FHSC	220	100	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
39	FHSC	210	80	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
40	FHSC	183	80	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
41	FHSC	187	40	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
42	FHSC	236	110	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
43	FHSC	195	60	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
44	FHSC	204	80	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
45	FHSC	253	160	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
46	FHSC	185	60	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
47	FHSC	219	90	M	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
48	FHSC	170	40	F	U	Gill Net	GN04	DPF	17W	503199 7976526	503104 7976510	GN04A	GN04B	29-07-2023	13:02	2023-07-29	15:00	1.97	6.5	Released
1	ARCH	-	500	U	U	Gill Net	GN05	DPF	17W	505196 7977513	505156 7977446	GN05A	GN05B	30-07-2023	8:40	2023-07-30	9:40	1.00	2.5	Released
2	ARCH	590	2014.7	U	A	Gill Net	GN05	DPF	17W	505196 7977513	505156 7977446	GN05A	GN05B	30-07-2023	8:40	2023-07-30	9:40	1.00	2.5	Mortality
3	FHSC	271	227	M	A	Gill Net	GN05	DPF	17W	505196 7977513	505156 7977446	GN05A	GN05B	30-07-2023	8:40	2023-07-30	9:40	1.00	2.5	Euthanized
4	FHSC	257	144	F	A	Gill Net	GN05	DPF	17W	505196 7977513	505156 7977446	GN05A	GN05B	30-07-2023	8:40	2023-07-30	9:40	1.00	2.5	Euthanized
5	FHSC	246	160	M	A	Gill Net	GN05	DPF	17W	505196 7977513	505156 7977446	GN05A	GN05B	30-07-2023	8:40	2023-07-30	9:40	1.00	2.5	Euthanized
6	FHSC	256	173	M	A	Gill Net	GN05	DPF	17W	505196 7977513	505156 7977446	GN05A	GN05B	30-07-2023	8:40	2023-07-30	9:40	1.00	2.5	Euthanized
7	FHSC	249	140	M	A	Gill Net	GN05	DPF	17W	505196 7977513	505156 7977446	GN05A	GN05B	30-07-2023	8:40	2023-07-30	9:40	1.00	2.5	Euthanized

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
1	ARCH	396	644	M	A	Gill Net	GN06	IPF	17W	505167 7977257	505127 7977178	GN06A	GN06B	30-07-2023	8:55	2023-07-30	9:50	0.92	2.25	Mortality
2	FHSC	269	193	M	A	Gill Net	GN06	IPF	17W	505167 7977257	505127 7977178	GN06A	GN06B	30-07-2023	8:55	2023-07-30	9:50	0.92	2.25	Euthanized
3	FHSC	246	138.5	F	A	Gill Net	GN06	IPF	17W	505167 7977257	505127 7977178	GN06A	GN06B	30-07-2023	8:55	2023-07-30	9:50	0.92	2.25	Euthanized
4	FHSC	260	166	M	A	Gill Net	GN06	IPF	17W	505167 7977257	505127 7977178	GN06A	GN06B	30-07-2023	8:55	2023-07-30	9:50	0.92	2.25	Released
5	FHSC	254	135	M	A	Gill Net	GN06	IPF	17W	505167 7977257	505127 7977178	GN06A	GN06B	30-07-2023	8:55	2023-07-30	9:50	0.92	2.25	Released
6	FHSC	266	194	M	A	Gill Net	GN06	IPF	17W	505167 7977257	505127 7977178	GN06A	GN06B	30-07-2023	8:55	2023-07-30	9:50	0.92	2.25	Released
7	FHSC	225	126	M	A	Gill Net	GN06	IPF	17W	505167 7977257	505127 7977178	GN06A	GN06B	30-07-2023	8:55	2023-07-30	9:50	0.92	2.25	Released
1	FHSC	187	40	F	A	Gill Net	GN07	IPF	17W	505308 7977983	505264 7977879	GN07A	GN07B	31-07-2023	8:50	2023-07-31	11:40	2.83	-	Released
2	FHSC	202	100	F	A	Gill Net	GN07	IPF	17W	505308 7977983	505264 7977879	GN07A	GN07B	31-07-2023	8:50	2023-07-31	11:40	2.83	-	Released
1	ARCH	595	2900	U	U	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Released
2	ARCH	738	2600	U	U	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Released
3	ARCH	530	1150	U	U	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
4	ARCH	498	1150	U	U	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
5	ARCH	382	600	U	U	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
6	ARCH	310	300	U	U	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
7	ARCH	324	380	U	U	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
8	ARCH	328	380	U	U	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
9	ARCH	390	740	U	U	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
10	ARCH	425	950	U	U	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
11	ARCH	385	640	U	U	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
12	ARCH	328	380	U	U	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
13	FHSC	236	127	M	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
14	FHSC	199	58.2	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
15	FHSC	231	115.7	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
16	FHSC	227	118	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
17	FHSC	220	87	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
18	FHSC	249	149	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
19	FHSC	235	123	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
20	FHSC	247	137	M	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
21	FHSC	185	50.1	M	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
22	FHSC	217	93.5	M	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
23	SHSC	320	390	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
24	SHSC	252	199.6	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
25	SHSC	210	121.1	M	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
26	FHSC	259	169.4	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
27	FHSC	244	139.1	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
28	FHSC	237	137	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
29	FHSC	240	129.9	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
30	FHSC	245	164	M	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
31	FHSC	242	145	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
32	FHSC	250	158	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
33	FHSC	265	168	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
34	FHSC	218	95	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
35	FHSC	229	140.4	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Euthanized
36	SHSC	223	155.3	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
37	SHSC	253	213.8	M	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
38	FHSC	166	34	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
39	SHSC	235	181.1	F	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
40	SHSC	179	81.8	M	A	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Mortality
-	ARCH	-	-	-	-	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Observed
-	ARCH	-	-	-	-	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Observed
-	ARCH	-	-	-	-	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Observed
-	ARCH	-	-	-	-	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Observed
-	ARCH	-	-	-	-	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Observed
-	ARCH	-	-	-	-	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Observed
-	ARCH	-	-	-	-	Gill Net	GN08	REF - K	17X	509012 8000879	508921 8000866	GN08A	GN08B	01-08-2023	9:42	2023-08-01	12:35	2.88	1.75	Observed
1	FHSC	246	150	M	A	Gill Net	GN09	IPF	17W	501568 7976609	501610 7976688	GN09A	GN09B	05-08-2023	12:38	2023-08-05	13:55	1.28	5.25	Released
2	FHSC	220	110	M	A	Gill Net	GN09	IPF	17W	501568 7976609	501610 7976688	GN09A	GN09B	05-08-2023	12:38	2023-08-05	13:55	1.28	5.25	Released
3	FHSC	198	70	M	A	Gill Net	GN09	IPF	17W	501568 7976609	501610 7976688	GN09A	GN09B	05-08-2023	12:38	2023-08-05	13:55	1.28	5.25	Released
4	FHSC	210	110	M	A	Gill Net	GN09	IPF	17W	501568 7976609	501610 7976688	GN09A	GN09B	05-08-2023	12:38	2023-08-05	13:55	1.28	5.25	Released
5	FHSC	191	60	F	A	Gill Net	GN09	IPF	17W	501568 7976609	501610 7976688	GN09A	GN09B	05-08-2023	12:38	2023-08-05	13:55	1.28	5.25	Released
NFC	-	-	-	-	-	Gill Net	GN10	IPF	17W	501409 7976428	501490 7976454	GN10A	GN10B	05-08-2023	13:05	2023-08-05	15:40	2.58	2.75	-
1	ARCH	510	1400	-	-	Gill Net	GN11	IPF	17W	501456 7977010	501534 7976975	GN11A	GN11B	05-08-2023	14:25	2023-08-05	15:55	1.50	-	Released
2	ARCH	482	1198.6	F	A	Gill Net	GN11	IPF	17W	501456 7977010	501534 7976975	GN11A	GN11B	05-08-2023	14:25	2023-08-05	15:55	1.50	-	Mortality
3	ARCH	315	300	-	-	Gill Net	GN11	IPF	17W	501456 7977010	501534 7976975	GN11A	GN11B	05-08-2023	14:25	2023-08-05	15:55	1.50	-	Released
4	ARCH	384	550	-	-	Gill Net	GN11	IPF	17W	501456 7977010	501534 7976975	GN11A	GN11B	05-08-2023	14:25	2023-08-05	15:55	1.50	-	Released
5	ARCH	294	270	-	-	Gill Net	GN11	IPF	17W	501456 7977010	501534 7976975	GN11A	GN11B	05-08-2023	14:25	2023-08-05	15:55	1.50	-	Released
6	ARCH	276	220	-	-	Gill Net	GN11	IPF	17W	501456 7977010	501534 7976975	GN11A	GN11B	05-08-2023	14:25	2023-08-05	15:55	1.50	-	Released
7	ARCH	269	220	-	-	Gill Net	GN11	IPF	17W	501456 7977010	501534 7976975	GN11A	GN11B	05-08-2023	14:25	2023-08-05	15:55	1.50	-	Released
8	ARCH	318	300	-	-	Gill Net	GN11	IPF	17W	501456 7977010	501534 7976975	GN11A	GN11B	05-08-2023	14:25	2023-08-05	15:55	1.50	-	Released
9	ARCH	313	323.4	U	J	Gill Net	GN11	IPF	17W	501456 7977010	501534 7976975	GN11A	GN11B	05-08-2023	14:25	2023-08-05	15:55	1.50	-	Mortality
NFC	-	-	-	-	-	Gill Net	GN12	IPF	17W	504527 7976452	504505 7976537	GN12A	GN12B	06-08-2023	15:00	2023-08-06	16:35	1.58	2.75	-
1	FHSC	218	80	U	J	Gill Net	GN13	IPF	17W	504745 7976614	504763 7976702	GN13A	GN13B	06-08-2023	15:10	2023-08-06	17:00	1.83	2.5	Released
2	FHSC	205	70	F	A	Gill Net	GN13	IPF	17W	504745 7976614	504763 7976702	GN13A	GN13B	06-08-2023	15:10	2023-08-06	17:00	1.83	2.5	Released
3	FHSC	215	90	F	A	Gill Net	GN13	IPF	17W	504745 7976614	504763 7976702	GN13A	GN13B	06-08-2023	15:10	2023-08-06	17:00	1.83	2.5	Released
4	FHSC	235	120	F	A	Gill Net	GN13	IPF	17W	504745 7976614	504763 7976702	GN13A	GN13B	06-08-2023	15:10	2023-08-06	17:00	1.83	2.5	Released
5	FHSC	229	110	F	A	Gill Net	GN13	IPF	17W	504745 7976614	504763 7976702	GN13A	GN13B	06-08-2023	15:10	2023-08-06	17:00	1.83	2.5	Released
1	FHSC	259	160	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
2	FHSC	170	70	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
3	FHSC	200	90	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
4	FHSC	200	60	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
5	FHSC	196	70	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
6	FHSC	250	65	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
7	FHSC	194	60	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
8	FHSC	152	40	F	J	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
9	FHSC	195	70	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
10	FHSC	210	70	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
11	FHSC	195	70	M	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
12	FHSC	187	60	U	J	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
13	FHSC	190	70	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
14	FHSC	147	30	U	J	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
15	FHSC	155	30	U	J	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
16	FHSC	177	60	U	J	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
17	FHSC	142	40	U	J	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
18	FHSC	210	90	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
19	FHSC	185	55	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
20	FHSC	214	90	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
21	FHSC	201	60	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
22	FHSC	196	70	M	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
23	FHSC	193	60	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
24	FHSC	197	60	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
25	FHSC	237	120	M	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
26	FHSC	194	70	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
27	FHSC	193	60	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
28	FHSC	191	60	M	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
29	FHSC	193	60	U	J	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
30	FHSC	197	60	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
31	FHSC	200	70	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
32	FHSC	191	70	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
33	FHSC	154	50	U	J	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
34	FHSC	215	100	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
35	FHSC	220	110	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
36	FHSC	214	80	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
37	FHSC	231	110	M	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
38	FHSC	188	60	M	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
39	FHSC	178	95	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
40	FHSC	186	50	M	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
41	FHSC	182	65	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
42	FHSC	232	120	M	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
43	FHSC	186	70	M	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
44	FHSC	206	80	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
45	FHSC	200	80	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
46	FHSC	152	30	U	J	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
47	FHSC	170	50	U	J	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
48	FHSC	200	70	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
49	FHSC	192	70	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
50	FHSC	202	75	M	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
51	FHSC	195	80	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
52	FHSC	231	100	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
53	FHSC	195	55	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
54	FHSC	221	110	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
55	FHSC	186	5	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
56	FHSC	253	150	M	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
57	FHSC	212	90	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
58	FHSC	187	50	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
59	FHSC	214	85	M	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
60	FHSC	215	80	M	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
61	FHSC	209	90	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
62	FHSC	215	85	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
63	FHSC	195	70	M	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
64	FHSC	216	105	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
65	FHSC	190	80	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
66	FHSC	218	80	M	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
67	FHSC	210	100	M	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
68	FHSC	201	70	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
69	FHSC	234	120	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
70	FHSC	180	50	U	J	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
71	FHSC	209	80	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
72	FHSC	218	110	M	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
73	FHSC	199	75	M	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
74	FHSC	201	70	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
75	FHSC	213	90	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
76	FHSC	155	50	U	J	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
77	FHSC	196	60	F	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
78	FHSC	170	60	U	J	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
79	FHSC	166	50	U	U	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Released
80	ARCH	482	1250	F	A	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Mortality
-	ARCH	-	-	-	-	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Observed
-	ARCH	-	-	-	-	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Observed
-	ARCH	-	-	-	-	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Observed
-	ARCH	-	-	-	-	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Observed
-	ARCH	-	-	-	-	Gill Net	GN14	DPF	17W	503840 7476648	503807 7476673	GN14A	GN14B	07-08-2023	9:40	2023-08-07	14:35	4.92	1.75	Observed
1	ARCH	696	3600	U	A	Gill Net	GN15	DPF	17W	504145 7976606	504227 7976621	GN15A	GN15B	07-08-2023	10:15	2023-08-07	12:02	1.78	4	Released
2	ARCH	663	2500	U	A	Gill Net	GN15	DPF	17W	504145 7976606	504227 7976621	GN15A	GN15B	07-08-2023	10:15	2023-08-07	12:02	1.78	4	Released
3	ARCH	443	1100	U	A	Gill Net	GN15	DPF	17W	504145 7976606	504227 7976621	GN15A	GN15B	07-08-2023	10:15	2023-08-07	12:02	1.78	4	Released
4	ARCH	453	1100	U	A	Gill Net	GN15	DPF	17W	504145 7976606	504227 7976621	GN15A	GN15B	07-08-2023	10:15	2023-08-07	12:02	1.78	4	Released
5	ARCH	420	813.7	U	A	Gill Net	GN15	DPF	17W	504145 7976606	504227 7976621	GN15A	GN15B	07-08-2023	10:15	2023-08-07	12:02	1.78	4	Mortality
6	ARCH	480	1315.4	F	A	Gill Net	GN15	DPF	17W	504145 7976606	504227 7976621	GN15A	GN15B	07-08-2023	10:15	2023-08-07	12:02	1.78	4	Mortality
7	FHSC	262	200	M	A	Gill Net	GN15	DPF	17W	504145 7976606	504227 7976621	GN15A	GN15B	07-08-2023	10:15	2023-08-07	12:02	1.78	4	Released
-	ARCH	-	-	-	-	Gill Net	GN15	DPF	17W	504145 7976606	504227 7976621	GN15A	GN15B	07-08-2023	10:15	2023-08-07	12:02	1.78	4	Observed
-	ARCH	-	-	-	-	Gill Net	GN15	DPF	17W	504145 7976606	504227 7976621	GN15A	GN15B	07-08-2023	10:15	2023-08-07	12:02	1.78	4	Observed
1	FHSC	199	60	F	A	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
2	FHSC	193	60	F	A	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
3	FHSC	183	50	U	J	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
4	FHSC	196	75	F	A	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
5	FHSC	218	110	M	A	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
6	FHSC	236	130	F	A	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
7	FHSC	226	110	M	A	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
8	FHSC	241	140	M	A	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
9	FHSC	205	80	M	A	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
10	FHSC	212	90	M	A	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
11	FHSC	204	100	F	A	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
12	FHSC	227	100	F	A	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
13	FHSC	192	75	U	J	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
14	FHSC	146	40	U	J	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
15	FHSC	188	60	U	J	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Released
-	FHSC	-	-	-	-	Gill Net	GN16	DPF	17W	503915 7976538	503889 7976600	GN16A	GN16B	07-08-2023	13:40	2023-08-07	15:40	2.00	0.75	Observed
1	FHSC	195	74	F	A	Gill Net	GN17	REF - K	17X	508925 8000885	508843 8000856	GNK1A	GNK1B	08-08-2023	11:00	2023-08-08	14:00	3.00	4.25	Euthanized
2	FHSC	265	165	F	A	Gill Net	GN17	REF - K	17X	508925 8000885	508843 8000856	GNK1A	GNK1B	08-08-2023	11:00	2023-08-08	14:00	3.00	4.25	Euthanized
3	ARCH	429	650	U	A	Gill Net	GN17	REF - K	17X	508925 8000885	508843 8000856	GNK1A	GNK1B	08-08-2023	11:00	2023-08-08	14:00	3.00	4.25	Released
4	ARSC	166	70	U	A	Gill Net	GN17	REF - K	17X	508925 8000885	508843 8000856	GNK1A	GNK1B	08-08-2023	11:00	2023-08-08	14:00	3.00	4.25	Released
5	ARCH	456	900	U	A	Gill Net	GN17	REF - K	17X	508925 8000885	508843 8000856	GNK1A	GNK1B	08-08-2023	11:00	2023-08-08	14:00	3.00	4.25	Released
6	ARSC	214	170	U	A	Gill Net	GN17	REF - K	17X	508925 8000885	508843 8000856	GNK1A	GNK1B	08-08-2023	11:00	2023-08-08	14:00	3.00	4.25	Released
7	ARCH	136	10	U	J	Gill Net	GN17	REF - K	17X	508925 8000885	508843 8000856	GNK1A	GNK1B	08-08-2023	11:00	2023-08-08	14:00	3.00	4.25	Released
8	FHSC	164	25	U	J	Gill Net	GN17	REF - K	17X	508925 8000885	508843 8000856	GNK1A	GNK1B	08-08-2023	11:00	2023-08-08	14:00	3.00	4.25	Released
9	ARCH	410	699.3	M	A	Gill Net	GN17	REF - K	17X	508925 8000885	508843 8000856	GNK1A	GNK1B	08-08-2023	11:00	2023-08-08	14:00	3.00	4.25	Mortality
10	ARCH	369	546.7	M	A	Gill Net	GN17	REF - K	17X	508925 8000885	508843 8000856	GNK1A	GNK1B	08-08-2023	11:00	2023-08-08	14:00	3.00	4.25	Mortality
-	ARCH	-	-	-	-	Gill Net	GN17	REF - K	17X	508925 8000885	508843 8000856	GNK1A	GNK1B	08-08-2023	11:00	2023-08-08	14:00	3.00	4.25	Observed
-	ARCH	-	-	-	-	Gill Net	GN17	REF - K	17X	508925 8000885	508843 8000856	GNK1A	GNK1B	08-08-2023	11:00	2023-08-08	14:00	3.00	4.25	Observed
-	ARCH	-	-	-	-	Gill Net	GN17	REF - K	17X	508925 8000885	508843 8000856	GNK1A	GNK1B	08-08-2023	11:00	2023-08-08	14:00	3.00	4.25	Observed
1	ARCH	324	400	U	A	Gill Net	GN18	REF - K	17X	508614 8000826	508697 8000826	GNK2B	GNK2A	08-08-2023	11:10	2023-08-08	14:11	3.02	3.75	Released
2	ARCH	419	700	U	A	Gill Net	GN18	REF - K	17X	508614 8000826	508697 8000826	GNK2B	GNK2A	08-08-2023	11:10	2023-08-08	14:11	3.02	3.75	Released
3	ARCH	334	300	U	A	Gill Net	GN18	REF - K	17X	508614 8000826	508697 8000826	GNK2B	GNK2A	08-08-2023	11:10	2023-08-08	14:11	3.02	3.75	Released
4	ARCH	374	400	U	A	Gill Net	GN18	REF - K	17X	508614 8000826	508697 8000826	GNK2B	GNK2A	08-08-2023	11:10	2023-08-08	14:11	3.02	3.75	Released
5	ARSC	177	50	U	A	Gill Net	GN18	REF - K	17X	508614 8000826	508697 8000826	GNK2B	GNK2A	08-08-2023	11:10	2023-08-08	14:11	3.02	3.75	Released
6	SHSC	245	175	M	A	Gill Net	GN18	REF - K	17X	508614 8000826	508697 8000826	GNK2B	GNK2A	08-08-2023	11:10	2023-08-08	14:11	3.02	3.75	Euthanized
7	SHSC	260	208	M	A	Gill Net	GN18	REF - K	17X	508614 8000826	508697 8000826	GNK2B	GNK2A	08-08-2023	11:10	2023-08-08	14:11	3.02	3.75	Euthanized
8	SHSC	241	180.6	M	A	Gill Net	GN18	REF - K	17X	508614 8000826	508697 8000826	GNK2B	GNK2A	08-08-2023	11:10	2023-08-08	14:11	3.02	3.75	Euthanized
9	SHSC	211	123.6	M	A	Gill Net	GN18	REF - K	17X	508614 8000826	508697 8000826	GNK2B	GNK2A	08-08-2023	11:10	2023-08-08	14:11	3.02	3.75	Euthanized
10	ARCH	349	371.6	F	A	Gill Net	GN18	REF - K	17X	508614 8000826	508697 8000826	GNK2B	GNK2A	08-08-2023	11:10	2023-08-08	14:11	3.02	3.75	Mortality
11	ARCH	430	687	U	J	Gill Net	GN18	REF - K	17X	508614 8000826	508697 8000826	GNK2B	GNK2A	08-08-2023	11:10	2023-08-08	14:11	3.02	3.75	Mortality
12	ARCH	366	418.5	F	A	Gill Net	GN18	REF - K	17X	508614 8000826	508697 8000826	GNK2B	GNK2A	08-08-2023	11:10	2023-08-08	14:11	3.02	3.75	Mortality
-	ARCH	-	-	-	-	Gill Net	GN18	REF - K	17X	508614 8000826	508697 8000826	GNK2B	GNK2A	08-08-2023	11:10	2023-08-08	14:11	3.02	3.75	Observed
-	ARCH	-	-	-	-	Gill Net	GN18	REF - K	17X	508614 8000826	508697 8000826	GNK2B	GNK2A	08-08-2023	11:10	2023-08-08	14:11	3.02	3.75	Observed
1	ARCH	360	400	U	U	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Released
2	FHSC	278	240	F	U	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Released
3	FHSC	269	180	F	A	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Released
4	FHSC	210	70	M	J	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Released
5	FHSC	176	50	U	J	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Released
6	FHSC	265	180	M	A	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Released
7	FHSC	270	200	M	A	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Released
8	FHSC	250	160	F	A	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
9	FHSC	273	230	F	A	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Released
10	FHSC	275	220	F	A	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Released
11	FHSC	266	260	F	A	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Released
12	FHSC	296	290	F	A	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Released
13	FHSC	289	230	F	A	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Released
14	FHSC	237	130	F	A	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Released
-	ARCH	-	-	-	-	Gill Net	GN19	IPF	17W	505164 7976909	505121 7976842	GN19A	GN19B	09-08-2023	9:35	2023-08-09	13:10	3.58	3.75	Observed
1	FHSC	232	120	M	A	Gill Net	GN20	IPF	17W	505003 7976567	504916 7976596	GN20A	GN20B	09-08-2023	9:45	2023-08-09	13:25	3.67	4.25	Released
2	FHSC	240	130	M	A	Gill Net	GN20	IPF	17W	505003 7976567	504916 7976596	GN20A	GN20B	09-08-2023	9:45	2023-08-09	13:25	3.67	4.25	Released
3	ARCH	140	25	U	J	Gill Net	GN20	IPF	17W	505003 7976567	504916 7976596	GN20A	GN20B	09-08-2023	9:45	2023-08-09	13:25	3.67	4.25	Released
1	FHSC	192	80	U	J	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
2	FHSC	337	370	F	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
3	SHSC	223	170	F	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
4	FHSC	217	90	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
5	FHSC	241	160	F	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
6	FHSC	234	140	F	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
7	ARCH	506	1229.9	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Mortality
8	ARCH	618	1900	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
9	ARCH	490	1400	U	U	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
10	ARCH	424	900	U	U	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
11	FHSC	245	130	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
12	FHSC	224	110	F	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
13	FHSC	245	110	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
14	FHSC	254	160	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
15	FHSC	225	120	F	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
16	FHSC	252	160	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
17	FHSC	193	80	M	J	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
18	FHSC	253	170	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
19	FHSC	187	70	F	J	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
20	FHSC	206	90	M	J	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
21	FHSC	205	110	U	J	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
22	FHSC	213	100	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
23	FHSC	202	80	U	U	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
24	FHSC	199	90	M	U	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
25	FHSC	242	145	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
26	FHSC	251	150	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
27	FHSC	120	75	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
28	FHSC	190	30	F	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Released
29	ARCH	647	1886	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Mortality
30	ARCH	424	942.8	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Mortality
31	ARCH	500	1407.6	M	A	Gill Net	GN21	DPF	17W	503153 7976492	503059 7976496	GN21A	GN21B	10-08-2023	8:26	2023-08-10	12:08	3.70	5.25	Mortality
1	FHSC	183	50	U	J	Gill Net	GN22	DPF	17W	502920 7976268	502828 7976268	GN22A	GN22B	10-08-2023	8:41	2023-08-10	12:28	3.78	2.25	Released
2	ARCH	358	500	U	U	Gill Net	GN22	DPF	17W	502920 7976268	502828 7976268	GN22A	GN22B	10-08-2023	8:41	2023-08-10	12:28	3.78	2.25	Mortality
3	ARCH	376	550	U	U	Gill Net	GN22	DPF	17W	502920 7976268	502828 7976268	GN22A	GN22B	10-08-2023	8:41	2023-08-10	12:28	3.78	2.25	Mortality
4	ARCH	319	319.2	F	J	Gill Net	GN22	DPF	17W	502920 7976268	502828 7976268	GN22A	GN22B	10-08-2023	8:41	2023-08-10	12:28	3.78	2.25	Mortality
5	ARCH	330	550	U	U	Gill Net	GN22	DPF	17W	502920 7976268	502828 7976268	GN22A	GN22B	10-08-2023	8:41	2023-08-10	12:28	3.78	2.25	Mortality
6	FHSC	190	50	F	J	Gill Net	GN22	DPF	17W	502920 7976268	502828 7976268	GN22A	GN22B	10-08-2023	8:41	2023-08-10	12:28	3.78	2.25	Released
1	ARSC	207	120	U	U	Gill Net	GN23	REF - K	17X	507636 8000296	507502 8000249	GN23A	GN23B	12-08-2023	10:40	2023-08-12	13:11	2.52	4	Released
2	FHSC	180	40	U	J	Gill Net	GN23	REF - K	17X	507636 8000296	507502 8000249	GN23A	GN23B	12-08-2023	10:40	2023-08-12	13:11	2.52	4	Released
3	ARCH	332	410	U	J	Gill Net	GN23	REF - K	17X	507636 8000296	507502 8000249	GN23A	GN23B	12-08-2023	10:40	2023-08-12	13:11	2.52	4	Released
4	ARCH	260	160	U	J	Gill Net	GN23	REF - K	17X	507636 8000296	507502 8000249	GN23A	GN23B	12-08-2023	10:40	2023-08-12	13:11	2.52	4	Released
5	ARCH	380	430	U	J	Gill Net	GN23	REF - K	17X	507636 8000296	507502 8000249	GN23A	GN23B	12-08-2023	10:40	2023-08-12	13:11	2.52	4	Released
6	ARCH	315	310	U	J	Gill Net	GN23	REF - K	17X	507636 8000296	507502 8000249	GN23A	GN23B	12-08-2023	10:40	2023-08-12	13:11	2.52	4	Released
7	ARCH	330	340	U	J	Gill Net	GN23	REF - K	17X	507636 8000296	507502 8000249	GN23A	GN23B	12-08-2023	10:40	2023-08-12	13:11	2.52	4	Released
8	ARCH	320	290	U	J	Gill Net	GN23	REF - K	17X	507636 8000296	507502 8000249	GN23A	GN23B	12-08-2023	10:40	2023-08-12	13:11	2.52	4	Released
9	ARCH	362	450	U	J	Gill Net	GN23	REF - K	17X	507636 8000296	507502 8000249	GN23A	GN23B	12-08-2023	10:40	2023-08-12	13:11	2.52	4	Released
10	FHSC	230	95.8	F	A	Gill Net	GN23	REF - K	17X	507636 8000296	507502 8000249	GN23A	GN23B	12-08-2023	10:40	2023-08-12	13:11	2.52	4	Euthanized
11	FHSC	227	99.7	M	A	Gill Net	GN23	REF - K	17X	507636 8000296	507502 8000249	GN23A	GN23B	12-08-2023	10:40	2023-08-12	13:11	2.52	4	Euthanized
12	ARCH	516	1478.5	M	A	Gill Net	GN23	REF - K	17X	507636 8000296	507502 8000249	GN23A	GN23B	12-08-2023	10:40	2023-08-12	13:11	2.52	4	Mortality
13	ARCH	572	992.1	U	J	Gill Net	GN23	REF - K	17X	507636 8000296	507502 8000249	GN23A	GN23B	12-08-2023	10:40	2023-08-12	13:11	2.52	4	Mortality
14	ARCH	415	661.4	F	A	Gill Net	GN23	REF - K	17X	507636 8000296	507502 8000249	GN23A	GN23B	12-08-2023	10:40	2023-08-12	13:11	2.52	4	Mortality
1	ARCH	223	130	U	J	Gill Net	GN24	REF - K	17X	507559 8000262	507990 8000201	GN24A	GN24B	12-08-2023	10:48	2023-08-12	13:33	2.75	2.5	Released
2	ARCH	328	380	U	J	Gill Net	GN24	REF - K	17X	507559 8000262	507990 8000201	GN24A	GN24B	12-08-2023	10:48	2023-08-12	13:33	2.75	2.5	Released
3	ARCH	312	310	U	J	Gill Net	GN24	REF - K	17X	507559 8000262	507990 8000201	GN24A	GN24B	12-08-2023	10:48	2023-08-12	13:33	2.75	2.5	Released
4	FHSC	182	30	U	J	Gill Net	GN24	REF - K	17X	507559 8000262	507990 8000201	GN24A	GN24B	12-08-2023	10:48	2023-08-12	13:33	2.75	2.5	Released
5	FHSC	200	71.2	F	A	Gill Net	GN24	REF - K	17X	507559 8000262	507990 8000201	GN24A	GN24B	12-08-2023	10:48	2023-08-12	13:33	2.75	2.5	Euthanized
6	ARCH	346	417	U	J	Gill Net	GN24	REF - K	17X	507559 8000262	507990 8000201	GN24A	GN24B	12-08-2023	10:48	2023-08-12	13:33	2.75	2.5	Mortality
-	ARCH	-	-	-	-	Gill Net	GN24	REF - K	17X	507559 8000262	507990 8000201	GN24A	GN24B	12-08-2023	10:48	2023-08-12	13:33	2.75	2.5	Observed
-	ARCH	-	-	-	-	Gill Net	GN24	REF - K	17X	507559 8000262	507990 8000201	GN24A	GN24B	12-08-2023	10:48	2023-08-12	13:33	2.75	2.5	Observed
-	ARCH	-	-	-	-	Gill Net	GN24	REF - K	17X	507559 8000262	507990 8000201	GN24A	GN24B	12-08-2023	10:48	2023-08-12	13:33	2.75	2.5	Observed
1	ARCH	525	1500	U	A	Gill Net	GN25	REF - K	17X	504415 8000078	507377 8000094	GN25A	GN25B	12-08-2023	11:03	2023-08-12	13:47	2.73	2.5	Released
2	ARCH	440	800	U	A	Gill Net	GN25	REF - K	17X	504415 8000078	507377 8000094	GN25A	GN25B	12-08-2023	11:03	2023-08-12	13:47	2.73	2.5	Released
3	ARCH	560	1900	U	A	Gill Net	GN25	REF - K	17X	504415 8000078	507377 8000094	GN25A	GN25B	12-08-2023	11:03	2023-08-12	13:47	2.73	2.5	Released
4	ARCH	443	900	U	A	Gill Net	GN25	REF - K	17X	504415 8000078	507377 8000094	GN25A	GN25B	12-08-2023	11:03	2023-08-12	13:47	2.73	2.5	Released
1	ARCH	153	20	U	J	Gill Net	GN26	IPF	17W	501775 7977672	501852 7977630	GN26A	GN26B	13-08-2023	9:53	2023-08-13	14:00	4.12	1.5	Released
2	FHSC	170	60	U	J	Gill Net	GN26	IPF	17W	501775 7977672	501852 7977630	GN26A	GN26B	13-08-2023	9:53	2023-08-13	14:00	4.12	1.5	Released
3	FHSC	165	50	U	J	Gill Net	GN26	IPF	17W	501775 7977672	501852 7977630	GN26A	GN26B	13-08-2023	9:53	2023-08-13	14:00	4.12	1.5	Released
4	FHSC	207	80	M	A	Gill Net	GN26	IPF	17W	501775 7977672	501852 7977630	GN26A	GN26B	13-08-2023	9:53	2023-08-13	14:00	4.12	1.5	Released
5	ARCH	154	30	U	J	Gill Net	GN26	IPF	17W	501775 7977672	501852 7977630	GN26A	GN26B	13-08-2023	9:53	2023-08-13	14:00	4.12	1.5	Released
6	FHSC	166	45	U	J	Gill Net	GN26	IPF	17W	501775 7977672	501852 7977630	GN26A	GN26B	13-08-2023	9:53	2023-08-13	14:00	4.12	1.5	Released
7	ARSC	160	30	U	J	Gill Net	GN26	IPF	17W	501775 7977672	501852 7977630	GN26A	GN26B	13-08-2023	9:53	2023-08-13	14:00	4.12	1.5	Released
8	ARCH	185	40	U	J	Gill Net	GN26	IPF	17W	501775 7977672	501852 7977630	GN26A	GN26B	13-08-2023	9:53	2023-08-13	14:00	4.12	1.5	Mortality
9	FHSC	199	65	M	A	Gill Net	GN26	IPF	17W	501775 7977672	501852 7977630	GN26A	GN26B	13-08-2023	9:53	2023-08-13	14:00	4.12	1.5	Released
10	FHSC	195	60	F	A	Gill Net	GN26	IPF	17W	501775 7977672	501852 7977630	GN26A	GN26B	13-08-2023	9:53	2023-08-13	14:00	4.12	1.5	Released
11	FHSC	205	75	M	A	Gill Net	GN26	IPF	17W	501775 7977672	501852 7977630	GN26A	GN26B	13-08-2023	9:53	2023-08-13	14:00	4.12	1.5	Released
12	FHSC	176	70	M	J	Gill Net	GN26	IPF	17W	501775 7977672	501852 7977630	GN26A	GN26B	13-08-2023	9:53	2023-08-13	14:00	4.12	1.5	Released
13	FHSC	182	55	F	J	Gill Net	GN26	IPF	17W	501775 7977672	501852 7977630	GN26A	GN26B	13-08-2023	9:53	2023-08-13	14:00	4.12	1.5	Released
14	FHSC	198	55	M	A	Gill Net	GN26	IPF	17W	501775 7977672	501852 7977630	GN26A	GN26B	13-08-2023	9:53	2023-08-13	14:00	4.12	1.5	Released
1	AALG	39	0.32	U	U	Trawling	TR01	DPF	17W	0502844 7976534	0503332 7976717	TR01A	TR01B	02-08-2023	12:22	2023-08-02	12:46	0.40	30	Mortality
2	STSC	127	36.1	U	A	Trawling	TR01	DPF	17W	0502844 7976534	0503332 7976717	TR01A	TR01B	02-08-2023	12:22	2023-08-02	12:46	0.40	30	Mortality
3	RBSC	110	8.2	U	A	Trawling	TR01	DPF	17W	0502844 7976534	0503332 7976717	TR01A	TR01B	02-08-2023	12:22	2023-08-02	12:46	0.40	30	Mortality
4	STSC	152	58.6	U	A	Trawling	TR01	DPF	17W	0502844 7976534	0503332 7976717	TR01A	TR01B	02-08-2023	12:22	2023-08-02	12:46	0.40	30	Mortality
5	RBSC	122	13.1	U	A	Trawling	TR01	DPF	17W	0502844 7976534	0503332 7976717	TR01A	TR01B	02-08-2023	12:22	2023-08-02	12:46	0.40	30	Mortality
6	RBSC	117	11.6	U	U	Trawling	TR01	DPF	17W	0502844 7976534	0503332 7976717	TR01A	TR01B	02-08-2023	12:22	2023-08-02	12:46	0.40	30	Mortality
7	RBSC	64	1.7	U	U	Trawling	TR01	DPF	17W	0502844 7976534	0503332 7976717	TR01A	TR01B	02-08-2023	12:22	2023-08-02	12:46	0.40	30	Mortality
8	STSC	90	9.5	U	U	Trawling	TR01	DPF	17W	0502844 7976534	0503332 7976717	TR01A	TR01B	02-08-2023	12:22	2023-08-02	12:46	0.40	30	Mortality
9	RBSC	129	18	U	A	Trawling	TR01	DPF	17W	0502844 7976534	0503332 7976717	TR01A	TR01B	02-08-2023	12:22	2023-08-02	12:46	0.40	30	Mortality
10	RBSC	64	1.5	U	U	Trawling	TR01	DPF	17W	0502844 7976534	0503332 7976717	TR01A	TR01B	02-08-2023	12:22	2023-08-02	12:46	0.40	30	Mortality
11	STSC	76	6.1	U	U	Trawling	TR01	DPF	17W	0502844 7976534	0503332 7976717	TR01A	TR01B	02-08-2023	12:22	2023-08-02	12:46	0.40	30	Mortality
1	RBSC	126	30	U	U	Trawling	TR02	DPF	17W	0502332 7976834	0503069 7976781	TR02A	TR02B	03-08-2023	13:55	2023-08-03	14:21	0.43	52.5	Released
2	SPSC	65	10	U	U	Trawling	TR02	DPF	17W	0502332 7976834	0503069 7976781	TR02A	TR02B	03-08-2023	13:55	2023-08-03	14:21	0.43	52.5	Released
1	SPSC	60	5	U	U	Trawling	TR03	IPF	17W	0504784 7977067	0505038 7977723	TR03A	TR03B	03-08-2023	15:15	2023-08-03	15:45	0.50	42.5	Released
2	AALG	55	5	U	U	Trawling	TR03	IPF	17W	0504784 7977067	0505038 7977723	TR03A	TR03B	03-08-2023	15:15	2023-08-03	15:45	0.50	42.5	Released
1	STSC	194	115	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Released
2	UNCD	86	5	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Mortality
3	STSC	141	25	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Released
4	STSC	129	30	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Released
5	STSC	164	70	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Released
6	STSC	91	5	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Mortality
7	STSC	119	40	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Released
8	RBSC	127	35	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Released
9	STSC	133	40	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Released
10	STSC	136	40	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Mortality
11	STSC	170	75	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Released
12	STSC	142	45	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Released
13	SAEP	109	10	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Released
14	STSC	135	30	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Released
15	RBSC	95	10	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Mortality
16	AALG	52	5	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Mortality
17	AALG	78	5	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Mortality
18	ASLP	76	40	U	U	Trawling	TR04	IPF	17W	0501763 7976863	0502121 7977721	TR04A	TR04B	03-08-2023	16:35	2023-08-03	17:00	0.42	31.5	Released

[1] NFC = no fish caught

[2] AALG = Arctic Alligatorfish; ARCH = Arctic Char; ARSC = Arctic Sculpin; ASLP = Atlantic Spiny Lumpsucker; FHSC = Fourhorn Sculpin; GRCD = Pacific Cod (previously Greenland Cod); POCD = Polar Cod; RBSC = Ribbed Sculpin; SAEP = Saddled Eelpout; SHSC = Shorthorn Sculpin; SPSC = Spatulate Sculpin; STSC = Arctic Staghorn Sculpin; UNCD = Unknown Cod

[3] M = Male; F = Female; U = Unknown

[4] A = Adult; J = Juvenile; F = Fry; U = Uknown

[5] DPF = Direct Project Footprint; IPF = Indirect Project Footprint; REF-K = Chapter 7.0 fish health reference exploration in Koluktoo Bay

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
1	SHSC	166	60	U	U	Angling - Jigging	ANJ01	REF - K	17X	0508647 8000772	-	ANJ01	-	2024-08-03	10:13	2024-08-03	10:20	0.12	10	Released
2	ARSC	225	150	U	U	Angling - Jigging	ANJ01	REF - K	17X	0508647 8000772	-	ANJ01	-	2024-08-03	10:13	2024-08-03	10:30	0.28	10	Released
3	SHSC	230	170	U	U	Angling - Jigging	ANJ01	REF - K	17X	0508647 8000772	-	ANJ01	-	2024-08-03	10:13	2024-08-03	10:30	0.28	10	Released
4	SHSC	240	150	U	U	Angling - Jigging	ANJ01	REF - K	17X	0508647 8000772	-	ANJ01	-	2024-08-03	10:13	2024-08-03	10:30	0.28	10	Released
5	SHSC	249	260	U	U	Angling - Jigging	ANJ01	REF - K	17X	0508647 8000772	-	ANJ01	-	2024-08-03	10:13	2024-08-03	10:30	0.28	10	Released
6	SHSC	194	110	U	U	Angling - Jigging	ANJ01	REF - K	17X	0508647 8000772	-	ANJ01	-	2024-08-03	10:13	2024-08-03	10:30	0.28	10	Released
1	SHSC	206	110	M	U	Angling - Jigging	ANJ02	REF - K	17X	0509075 8000822	-	ANJ02	-	2024-08-03	10:15	2024-08-03	10:52	0.62	5	Released
2	GRCD	503	1300	U	U	Angling - Jigging	ANJ02	REF - K	17X	0509075 8000822	-	ANJ02	-	2024-08-03	10:15	2024-08-03	10:52	0.62	5	Released
3	ARSC	229	135	U	U	Angling - Jigging	ANJ02	REF - K	17X	0509075 8000822	-	ANJ02	-	2024-08-03	10:15	2024-08-03	10:52	0.62	5	Released
4	ARSC	234	175	U	U	Angling - Jigging	ANJ02	REF - K	17X	0509075 8000822	-	ANJ02	-	2024-08-03	10:15	2024-08-03	10:52	0.62	5	Released
5	ARSC	190	85	U	U	Angling - Jigging	ANJ02	REF - K	17X	0509075 8000822	-	ANJ02	-	2024-08-03	10:15	2024-08-03	10:52	0.62	5	Released
1	SHSC	-	-	-	-	Angling - Jigging	ANJ03	REF - K	17X	0508591 8000789	-	ANJ03	-	2024-08-03	12:35	2024-08-03	12:43	0.13	3	Observed
2	SHSC	-	-	-	-	Angling - Jigging	ANJ03	REF - K	17X	0508591 8000789	-	ANJ03	-	2024-08-03	12:35	2024-08-03	12:43	0.13	3	Observed
3	ARSC	185	70	F	A	Angling - Jigging	ANJ03	REF - K	17X	0508591 8000789	-	ANJ03	-	2024-08-03	12:35	2024-08-03	12:43	0.13	3	Released
4	SHSC	175	55	M	A	Angling - Jigging	ANJ03	REF - K	17X	0508591 8000789		ANJ03	-	2024-08-03	12:35	2024-08-03	12:43	0.13	3	Released
1	SHSC	235	160	-	-	Angling - Jigging	ANJ04	REF - K	17X	0509129 8000806	-	ANJ04	-	2024-08-03	13:00	2024-08-03	13:35	0.58	2	Mortality
2	SHSC	288	290	-	-	Angling - Jigging	ANJ04	REF - K	17X	0509129 8000806	-	ANJ04	-	2024-08-03	13:00	2024-08-03	13:35	0.58	2	Released
3	SHSC	233	130	-	-	Angling - Jigging	ANJ04	REF - K	17X	0509129 8000806	-	ANJ04	-	2024-08-03	13:00	2024-08-03	13:35	0.58	2	Released
4	SHSC	240	140	-	-	Angling - Jigging	ANJ04	REF - K	17X	0509129 8000806	-	ANJ04	-	2024-08-03	13:00	2024-08-03	13:35	0.58	2	Released
1	FHSC	210	70	M	A	Angling - Jigging	ANJ05	REF - K	17X	0508727 8000870	-	ANJ05	-	2024-08-03	13:10	2024-08-03	13:30	0.33	1.5	Euthanized
1	GRCD	620	2750	-	-	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Released
2	GRCD	625	2980	-	-	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Released
3	GRCD	555	2210	-	-	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Released
4	SHSC	272	240	F	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Released
5	SHSC	265	241	F	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Released
6	SHSC	265	219	U	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Released
7	FHSC	281	235.7	F	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
8	FHSC	203	78.1	M	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
9	FHSC	260	192	F	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
10	FHSC	245	156.3	F	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
11	FHSC	219	107.7	M	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
12	FHSC	262	196.7	M	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
13	FHSC	265	216.3	M	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
14	FHSC	228	104.8	M	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
15	FHSC	254	157.7	M	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
16	FHSC	229	122.1	M	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
17	FHSC	258	151.5	M	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
18	FHSC	314	365.5	f	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
19	FHSC	227	109.7	M	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
20	FHSC	248	145	M	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
21	FHSC	208	79.9	f	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
22	FHSC	219	91.6	M	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
23	FHSC	255	180.6	F	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
24	FHSC	249	165.2	F	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
25	FHSC	228	104.7	F	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
26	FHSC	217	103.3	F	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
27	FHSC	225	117.1	M	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
28	FHSC	230	118.3	F	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
29	FHSC	229	114.9	M	A	Angling - Jigging	ANJ06	DPF	17W	0503224 7976589	-	ANJ06	-	2024-08-04	8:50	2024-08-04	10:00	1.17	2	Euthanized
1	GRCD	519	1540	U	U	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Released
2	GRCD	411	640	U	U	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Released
3	SHSC	310	405	F	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Released
4	SHSC	272	340	F	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Released
5	SHSC	226	160	M	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Released
6	FHSC	153	40	U	-	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Released
7	FHSC	249	170.3	F	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Euthanized
8	FHSC	284	209.5	F	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Euthanized
9	FHSC	244	144.4	F	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Euthanized
10	FHSC	235	122.7	F	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Euthanized
11	FHSC	246	147.5	F	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Euthanized
12	FHSC	256	157.7	F	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Euthanized
13	FHSC	273	187.2	M	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Euthanized
14	FHSC	276	188.7	M	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Euthanized
15	FHSC	237	120.1	M	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Euthanized
16	FHSC	219	99.1	M	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Euthanized
17	FHSC	254	154.8	M	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Euthanized
18	FHSC	213	92.6	M	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Euthanized
19	FHSC	213	87.6	M	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Euthanized
20	FHSC	210	85.5	M	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Released
21	FHSC	210	80	M	A	Angling - Jigging	ANJ07	DPF	17W	0503208 7976624	0503214 7976566	ANJ07	ANJ07B	2024-08-05	9:55	2024-08-05	11:10	1.25	10	Released
1	FHSC	245	160	M	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
2	FHSC	198	70	F	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
3	FHSC	228	110	F	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
4	FHSC	206	80	M	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
5	FHSC	195	60	F	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
6	FHSC	248	190	F	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
7	FHSC	268	190	F	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
8	FHSC	248	130	M	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
9	FHSC	280	240	F	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
10	FHSC	180	50	U	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
11	FHSC	217	100	F	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
12	FHSC	252	160	F	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
13	FHSC	226	120	M	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
14	SHSC	248	220	M	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
15	FHSC	248	170	F	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
16	FHSC	266	180	M	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
17	FHSC	206	90	F	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
18	FHSC	198	70	M	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
19	FHSC	204	80	M	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
20	FHSC	249	120	M	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
21	FHSC	231	140	M	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
22	SHSC	236	180	M	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
23	FHSC	194	80	F	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
24	FHSC	248	180	F	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
25	FHSC	225	120	M	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
26	FHSC	230	110	M	A	Angling - Jigging	ANJ08	DPF	17W	0503134 7976516	0503036 7976474	ANJ08A	ANJ08B	2024-08-06	15:50	2024-08-06	16:15	0.42	9.2	Released
1	GRCD	489	1360	U	A	Angling - Jigging	ANJ09	IPF	17W	0505728 7978967	-	ANJ09	-	2024-08-07	9:13	2024-08-07	9:52	0.65	17	Released
2	SHSC	360	590	F	A	Angling - Jigging	ANJ09	IPF	17W	0505728 7978467	-	ANJ09	-	2024-08-07	9:13	2024-08-07	9:52	0.65	17	Released
3	SHSC	336	470	F	A	Angling - Jigging	ANJ09	IPF	17W	0505728 7978467	-	ANJ09	-	2024-08-07	9:13	2024-08-07	9:52	0.65	17	Released
4	SHSC	256	230	M	A	Angling - Jigging	ANJ09	IPF	17W	0505728 7978467	-	ANJ09	-	2024-08-07	9:13	2024-08-07	9:52	0.65	17	Released
5	SHSC	260	215	M	A	Angling - Jigging	ANJ09	IPF	17W	0505728 7978467	-	ANJ09	-	2024-08-07	9:13	2024-08-07	9:52	0.65	17	Released
6	SHSC	237	165	M	A	Angling - Jigging	ANJ09	IPF	17W	0505728 7978467	-	ANJ09	-	2024-08-07	9:13	2024-08-07	9:52	0.65	17	Released
1	SHSC	303	380	M	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
2	SHSC	239	300	M	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
3	SHSC	275	320	F	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
4	SHSC	265	250	F	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
5	SHSC	181	90	M	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
6	FHSC	301	330	F	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
7	FHSC	258	190	F	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
8	SHSC	237	150	M	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
9	SHSC	184	70	M	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
10	SHSC	186	70	M	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
11	FHSC	253	200	F	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
12	SHSC	255	220	F	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
13	SHSC	216	100	M	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
14	SHSC	220	120	M	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
15	SHSC	257	210	F	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
16	FHSC	294	260	F	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
17	FHSC	260	150	F	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
18	SHSC	200	100	M	A	Angling - Jigging	ANJ10	IPF	17W	0505259 7977482	-	ANJ10	-	2024-08-07	10:29	2024-08-07	10:56	0.45	5	Released
1	GRCD	670	3568	U	A	Angling - Jigging	ANJ11	DPF	17W	0503329 7976680	-	ANJ11	-	2024-08-07	13:12	2024-08-07	14:09	0.95	4	Released
2	GRCD	540	2130	U	A	Angling - Jigging	ANJ11	DPF	17W	0503329 7976680	-	ANJ11	-	2024-08-07	13:12	2024-08-07	14:09	0.95	4	Released

Table 6. 2024 Fishing Catch Data, Milne Inlet

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
3	SHSC	462	1170	F	A	Angling - Jigging	ANJ11	DPF	17W	0503329 7976680	-	ANJ11	-	2024-08-07	13:12	2024-08-07	14:09	0.95	4	Released
4	SHSC	369	730	F	A	Angling - Jigging	ANJ11	DPF	17W	0503329 7976680	-	ANJ11	-	2024-08-07	13:12	2024-08-07	14:09	0.95	4	Released
5	SHSC	244	165	M	A	Angling - Jigging	ANJ11	DPF	17W	0503329 7976680	-	ANJ11	-	2024-08-07	13:12	2024-08-07	14:09	0.95	4	Released
6	GRCD	594	2190	U	A	Angling - Jigging	ANJ11	DPF	17W	0503329 7976680	-	ANJ11	-	2024-08-07	13:12	2024-08-07	14:09	0.95	4	Released
7	GRCD	555	1760	U	A	Angling - Jigging	ANJ11	DPF	17W	0503329 7976680	-	ANJ11	-	2024-08-07	13:12	2024-08-07	14:09	0.95	4	Released
8	SHSC	310	380	F	A	Angling - Jigging	ANJ11	DPF	17W	0503329 7976680	-	ANJ11	-	2024-08-07	13:12	2024-08-07	14:09	0.95	4	Released
9	SHSC	200	110	M	A	Angling - Jigging	ANJ11	DPF	17W	0503329 7976680	-	ANJ11	-	2024-08-07	13:12	2024-08-07	14:09	0.95	4	Released
1	FHSC	209	120	F	A	Angling - Jigging	ANJ12	IPF	17W	0505105 7976955	-	ANJ12	-	2024-08-08	8:57	2024-08-08	9:23	0.43	3	Released
2	FHSC	243	140	M	A	Angling - Jigging	ANJ12	IPF	17W	0505105 7976955	-	ANJ12	-	2024-08-08	8:57	2024-08-08	9:23	0.43	3	Released
3	FHSC	206	80	F	A	Angling - Jigging	ANJ12	IPF	17W	0505105 7976955	-	ANJ12	-	2024-08-08	8:57	2024-08-08	9:23	0.43	3	Released
4	FHSC	254	185	M	A	Angling - Jigging	ANJ12	IPF	17W	0505105 7976955	-	ANJ12	-	2024-08-08	8:57	2024-08-08	9:23	0.43	3	Released
5	FHSC	250	170	M	A	Angling - Jigging	ANJ12	IPF	17W	0505105 7976955	-	ANJ12	-	2024-08-08	8:57	2024-08-08	9:23	0.43	3	Released
6	FHSC	235	140	M	A	Angling - Jigging	ANJ12	IPF	17W	0505105 7976955	-	ANJ12	-	2024-08-08	8:57	2024-08-08	9:23	0.43	3	Released
7	FHSC	263	200	F	A	Angling - Jigging	ANJ12	IPF	17W	0505105 7976955	-	ANJ12	-	2024-08-08	8:57	2024-08-08	9:23	0.43	3	Released
8	FHSC	237	120	F	A	Angling - Jigging	ANJ12	IPF	17W	0505105 7976955	-	ANJ12	-	2024-08-08	8:57	2024-08-08	9:23	0.43	3	Released
9	FHSC	228	130	F	A	Angling - Jigging	ANJ12	IPF	17W	0505105 7976955	-	ANJ12	-	2024-08-08	8:57	2024-08-08	9:23	0.43	3	Released
10	FHSC	226	100	M	A	Angling - Jigging	ANJ12	IPF	17W	0505105 7976955	-	ANJ12	-	2024-08-08	8:57	2024-08-08	9:23	0.43	3	Released
1	ARSC	250	200	U	U	Angling - Jigging	ANJ13	IPF	17W	0505042 7976603	-	ANJ13	-	2024-08-08	10:08	2024-08-08	10:37	0.48	7	Released
2	SHSC	316	420	F	A	Angling - Jigging	ANJ13	IPF	17W	0505042 7976603	-	ANJ13	-	2024-08-08	10:08	2024-08-08	10:37	0.48	7	Released
3	SHSC	239	195	F	A	Angling - Jigging	ANJ13	IPF	17W	0505042 7976603	-	ANJ13	-	2024-08-08	10:08	2024-08-08	10:37	0.48	7	Released
4	SHSC	190	90	U	A	Angling - Jigging	ANJ13	IPF	17W	0505042 7976603	-	ANJ13	-	2024-08-08	10:08	2024-08-08	10:37	0.48	7	Released
5	FHSC	288	290	F	A	Angling - Jigging	ANJ13	IPF	17W	0505042 7976603	-	ANJ13	-	2024-08-08	10:08	2024-08-08	10:37	0.48	7	Released
6	FHSC	265	230	M	A	Angling - Jigging	ANJ13	IPF	17W	0505042 7976603	-	ANJ13	-	2024-08-08	10:08	2024-08-08	10:37	0.48	7	Released
7	FHSC	284	300	F	A	Angling - Jigging	ANJ13	IPF	17W	0505042 7976603	-	ANJ13	-	2024-08-08	10:08	2024-08-08	10:37	0.48	7	Released
8	FHSC	249	160	F	A	Angling - Jigging	ANJ13	IPF	17W	0505042 7976603	-	ANJ13	-	2024-08-08	10:08	2024-08-08	10:37	0.48	7	Released
9	FHSC	309	378.7	F	A	Angling - Jigging	ANJ13	IPF	17W	0505042 7976603	-	ANJ13	-	2024-08-08	10:08	2024-08-08	10:37	0.48	7	Euthanized
10	FHSC	284	220.1	F	A	Angling - Jigging	ANJ13	IPF	17W	0505042 7976603	-	ANJ13	-	2024-08-08	10:08	2024-08-08	10:37	0.48	7	Euthanized
11	FHSC	260	211.9	F	A	Angling - Jigging	ANJ13	IPF	17W	0505042 7976603	-	ANJ13	-	2024-08-08	10:08	2024-08-08	10:37	0.48	7	Euthanized
12	FHSC	266	190.8	F	A	Angling - Jigging	ANJ13	IPF	17W	0505042 7976603	-	ANJ13	-	2024-08-08	10:08	2024-08-08	10:37	0.48	7	Euthanized
13	FHSC	278	190	F	A	Angling - Jigging	ANJ13	IPF	17W	0505042 7976603	-	ANJ13	-	2024-08-08	10:08	2024-08-08	10:37	0.48	7	Released
1	GRCD	535	1260	U	U	Angling - Jigging	ANJ14	DPF	17W	0503993 7976675	-	ANJ14	-	2024-08-08	13:20	2024-08-08	14:00	0.67	5	Released
2	SHSC	255	190	M	A	Angling - Jigging	ANJ14	DPF	17W	0503993 7976675	-	ANJ14	-	2024-08-08	13:20	2024-08-08	14:00	0.67	5	Released
3	SHSC	333	600	F	A	Angling - Jigging	ANJ14	DPF	17W	0503993 7976675	-	ANJ14	-	2024-08-08	13:20	2024-08-08	14:00	0.67	5	Released
4	SHSC	275	250	F	A	Angling - Jigging	ANJ14	DPF	17W	0503993 7976675	-	ANJ14	-	2024-08-08	13:20	2024-08-08	14:00	0.67	5	Released
5	SHSC	243	180	M	A	Angling - Jigging	ANJ14	DPF	17W	0503993 7976675	-	ANJ14	-	2024-08-08	13:20	2024-08-08	14:00	0.67	5	Released
6	SHSC	250	240	M	A	Angling - Jigging	ANJ14	DPF	17W	0503993 7976675	-	ANJ14	-	2024-08-08	13:20	2024-08-08	14:00	0.67	5	Released
7	SHSC	229	140	M	A	Angling - Jigging	ANJ14	DPF	17W	0503993 7976675	-	ANJ14	-	2024-08-08	13:20	2024-08-08	14:00	0.67	5	Released
1	FHSC	222	100	F	A	Angling - Jigging	ANJ15	DPF	17W	0503889 7976611	-	ANJ15	-	2024-08-08	14:25	-	14:34	0.15	1.5	Released
2	FHSC	224	100	M	A	Angling - Jigging	ANJ15	DPF	17W	0503889 7976611	-	ANJ15	-	2024-08-08	14:25	-	14:34	0.15	1.5	Released
3	FHSC	189	-	F	A	Angling - Jigging	ANJ15	DPF	17W	0503889 7978611	-	ANJ15	-	2024-08-08	14:25	-	14:34	0.15	1.5	Released
1	SHSC	215	140	M	A	Angling - Jigging	ANJ16	REF-K	17X	0507000 7999750	-	ANJ16	-	2024-08-09	10:30	-	11:00	0.50	2	Released
2	SHSC	260	195	M	A	Angling - Jigging	ANJ16	REF-K	17X	0507000 7999750	-	ANJ16	-	2024-08-09	10:30	-	11:00	0.50	2	Released
3	SHSC	246	185	F	A	Angling - Jigging	ANJ16	REF-K	17X	0507000 7999750	-	ANJ16	-	2024-08-09	10:30	-	11:00	0.50	2	Released
4	SHSC	216	120	F	A	Angling - Jigging	ANJ16	REF-K	17X	0507000 7999750	-	ANJ16	-	2024-08-09	10:30	-	11:00	0.50	2	Released
5	SHSC	220	140	F	A	Angling - Jigging	ANJ16	REF-K	17X	0507000 7999750	-	ANJ16	-	2024-08-09	10:30	-	11:00	0.50	2	Released
6	SHSC	202	80	F	A	Angling - Jigging	ANJ16	REF-K	17X	0507000 7999750	-	ANJ16	-	2024-08-09	10:30	-	11:00	0.50	2	Released
7	ARSC	245	160	F	A	Angling - Jigging	ANJ16	REF-K	17X	0507000 7999750	-	ANJ16	-	2024-08-09	10:30	-	11:00	0.50	2	Released
8	SHSC	196	95	M	A	Angling - Jigging	ANJ16	REF-K	17X	0507000 7999750	-	ANJ16	-	2024-08-09	10:30	-	11:00	0.50	2	Released
9	SHSC	247	155	M	A	Angling - Jigging	ANJ16	REF-K	17X	0507000 7999750	-	ANJ16	-	2024-08-09	10:30	-	11:00	0.50	2	Released
10	SHSC	174	60	M	A	Angling - Jigging	ANJ16	REF-K	17X	0507000 7999750	-	ANJ16	-	2024-08-09	10:30	-	11:00	0.50	2	Released
11	ARSC	196	115	F	A	Angling - Jigging	ANJ16	REF-K	17X	0507000 7999750	-	ANJ16	-	2024-08-09	10:30	-	11:00	0.50	2	Released
12	FHSC	238	151.3	F	A	Angling - Jigging	ANJ16	REF-K	17X	0507000 7999750	-	ANJ16	-	2024-08-09	10:30	-	11:00	0.50	2	Euthanized
13	FHSC	220	112	F	A	Angling - Jigging	ANJ16	REF-K	17X	0507000 7999750	-	ANJ16	-	2024-08-09	10:30	-	11:00	0.50	2	Euthanized
1	ARSC	219	140	U	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
2	SHSC	276	220	F	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
3	SHSC	293	330	F	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
4	SHSC	363	670	F	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
5	SHSC	227	140	M	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
6	SHSC	252	260	M	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
7	SHSC	230	170	F	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
8	SHSC	220	140	M	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
9	SHSC	280	250	F	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
10	SHSC	276	270	F	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
11	SHSC	261	200	M	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
12	SHSC	220	140	M	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
13	SHSC	220	140	M	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
14	SHSC	314	390	M	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
15	SHSC	250	180	F	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
16	SHSC	221	140	M	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
17	SHSC	216	130	F	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
18	SHSC	244	190	F	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
19	SHSC	374	645	F	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
20	SHSC	225	140	M	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
21	SHSC	242	170	F	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
22	SHSC	244	170	F	A	Angling - Jigging	ANJ17	REF-K	17X	0508684 8000816	-	ANJ17	-	2024-08-09	9:20	-	10:00	0.67	9	Released
1	SHSC	284	290	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Released
2	SHSC	266	200	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Released
3	ARSC	185	70	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Released
4	SHSC	210	100	F	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Released
5	ARSC	221	110	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Released
6	SHSC	176	60	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Released
7	SHSC	192	100	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Released
8	ARSC	199	85	F	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Released
9	ARSC	203	105	F	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Released
10	ARSC	175	70	F	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Released
11	SHSC	189	50	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Released
12	ARSC	171	55	F	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Released
13	SHSC	260	190	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Released
14	FHSC	208	97.7	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Euthanized
15	FHSC	230	100.7	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Euthanized
16	FHSC	190	60.2	F	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Euthanized
17	FHSC	222	103.9	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Euthanized
18	FHSC	212	82.5	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Euthanized
19	FHSC	184	52.5	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Euthanized
20	FHSC	202	72.7	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Euthanized
21	FHSC	190	53.7	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Euthanized
22	FHSC	198	73.8	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Euthanized
23	FHSC	200	72.1	M	A	Angling - Jigging	ANJ18	REF-K	17X	0509541 8000425	-	ANJ18	-	2024-08-09	11:50	-	13:04	1.23	1	Euthanized
1	SHSC	250	180	M	-	Angling - Jigging	ANJ19	REF-K	17X	0509597 8000377	-	ANJ19	-	2024-08-09	12:15	-	13:15	1.00	2	Released
2	SHSC	241	160	F	-	Angling - Jigging	ANJ19	REF-K	17X	0509597 8000377	-	ANJ19	-	2024-08-09	12:15	-	13:15	1.00	2	Released
3	SHSC	240	170	F	-	Angling - Jigging	ANJ19	REF-K	17X	0509597 8000377	-	ANJ19	-	2024-08-09	12:15	-	13:15	1.00	2	Released
4	SHSC	263	205	M	-	Angling - Jigging	ANJ19	REF-K	17X	0509597 8000377	-	ANJ19	-	2024-08-09	12:15	-	13:15	1.00	2	Released
5	SHSC	299	320	F	-	Angling - Jigging	ANJ19	REF-K	17X	0509597 8000377	-	ANJ19	-	2024-08-09	12:15	-	13:15	1.00	2	Released
6	SHSC	222	130	M	-	Angling - Jigging	ANJ19	REF-K	17X	0509597 8000377	-	ANJ19	-	2024-08-09	12:15	-	13:15	1.00	2	Released
7	ARSC	185	90	U	-	Angling - Jigging	ANJ19	REF-K	17X	0509597 8000377	-	ANJ19	-	2024-08-09	12:15	-	13:15	1.00	2	Released
8	SHSC	200	85	M	-	Angling - Jigging	ANJ19	REF-K	17X	0509597 8000377	-	ANJ19	-	2024-08-09	12:15	-	13:15	1.00	2	Released
9	FHSC	219	107.2	M	A	Angling - Jigging	ANJ19	REF-K	17X	0509597 8000377	-	ANJ19	-	2024-08-09	12:15	-	13:15	1.00	2	Euthanized
10	FHSC	211	90.8	M	A	Angling - Jigging	ANJ19	REF-K	17X	0509597 8000377	-	ANJ19	-	2024-08-09	12:15	-	13:15	1.00	2	Euthanized
11	FHSC	209	89.2	F	A	Angling - Jigging	ANJ19	REF-K	17X	0509597 8000377	-	ANJ19	-	2024-08-09	12:15	-	13:15	1.00	2	Euthanized
12	FHSC	205	87.3	F	A	Angling - Jigging	ANJ19	REF-K	17X	0509597 8000377	-	ANJ19	-	2024-08-09	12:15	-	13:15	1.00	2	Euthanized
1	ARCH	640	2950	U	A	Angling - Jigging	ANJ20	REF-K	17X	0508891 8000864	-	ANJ20	-	2024-08-09	10:51	-	11:20	0.48	5	Released
2	SHSC	208	110	M	A	Angling - Jigging	ANJ20	REF-K	17X	0508891 8000864	-	ANJ20	-	2024-08-09	10:51	-	11:20	0.48	5	Released
3	SHSC	165	60	M	A	Angling - Jigging	ANJ20	REF-K	17X	0508891 8000864	-	ANJ20	-	2024-08-09	10:51	-	11:20	0.48	5	Released
4	SHSC	197	105	M	A	Angling - Jigging	ANJ20	REF-K	17X	0508891 8000864	-	ANJ20	-	2024-08-09	10:51	-	11:20	0.48	5	Released
5	ARSC	200	110	U	A	Angling - Jigging	ANJ20	REF-K	17X	0508891 8000864	-	ANJ20	-	2024-08-09	10:51	-	11:20	0.48	5	Released
6	SHSC	239	170	M	A	Angling - Jigging	ANJ20	REF-K	17X	0508891 8000864	-	ANJ20	-	2024-08-09	10:51	-	11:20	0.48	5	Released
7	SHSC	215	140	M	A	Angling - Jigging	ANJ20	REF-K	17X	0508891 8000864	-	ANJ20	-	2024-08-09	10:51	-	11:20	0.48	5	Released
8	ARSC	189	90	U	A	Angling - Jigging	ANJ20	REF-K	17X	0508891 8000864	-	ANJ20	-	2024-08-09	10:51	-	11:20	0.48	5	Released
9	ARSC	197	100	U	A	Angling - Jigging	ANJ20	REF-K	17X	0508891 8000864	-	ANJ20	-	2024-08-09	10:51	-	11:20	0.48	5	Released
10	ARSC	196	120	U	A	Angling - Jigging	ANJ20	REF-K	17X	0508891 8000864	-	ANJ20	-	2024-08-09	10:51	-	11:20	0.48	5	Released
11	FHSC	243	156.7	F	A	Angling - Jigging	ANJ20	REF-K	17X	0508891 8000864	-	ANJ20	-	2024-08-09	10:51	-	11:20	0.48	5	Euthanized
12	FHSC	257	177.9	M	A	Angling - Jigging	ANJ20	REF-K	17X	0508891 8000864	-	ANJ20	-	2024-08-09	10:51	-	11:20	0.48	5	Euthanized

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
1	GRCD	522	1600	U	U	Angling - Jigging	ANJ20-2	DPF	17W	0503220 7976602	-	ANJ20-2	-	2024-08-10	11:38	-	12:21	0.72	2.5	Released
2	SHSC	329	450	F	A	Angling - Jigging	ANJ20-2	DPF	17W	0503220 7976602	-	ANJ20-2	-	2024-08-10	11:38	-	12:21	0.72	2.5	Released
3	GRCD	544	1950	U	U	Angling - Jigging	ANJ20-2	DPF	17W	0503220 7976602	-	ANJ20-2	-	2024-08-10	11:38	-	12:21	0.72	2.5	Released
4	GRCD	531	1690	U	U	Angling - Jigging	ANJ20-2	DPF	17W	0503220 7976602	-	ANJ20-2	-	2024-08-10	11:38	-	12:21	0.72	2.5	Released
5	GRCD	490	1360	U	U	Angling - Jigging	ANJ20-2	DPF	17W	0503220 7976602	-	ANJ20-2	-	2024-08-10	11:38	-	12:21	0.72	2.5	Released
1	FHSC	195	50	F	A	Angling - Jigging	ANJ21	DPF	17W	0503435 7976604	-	ANJ21	-	2024-08-10	13:02	-	13:52	0.83	2	Released
2	FHSC	225	95	F	A	Angling - Jigging	ANJ21	DPF	17W	0503435 7976604	-	ANJ21	-	2024-08-10	13:02	-	13:52	0.83	2	Released
3	FHSC	215	95	F	A	Angling - Jigging	ANJ21	DPF	17W	0503435 7976604	-	ANJ21	-	2024-08-10	13:02	-	13:52	0.83	2	Released
4	FHSC	220	90	F	A	Angling - Jigging	ANJ21	DPF	17W	0503435 7976604	-	ANJ21	-	2024-08-10	13:02	-	13:52	0.83	2	Released
5	FHSC	192	45	F	A	Angling - Jigging	ANJ21	DPF	17W	0503435 7976604	-	ANJ21	-	2024-08-10	13:02	-	13:52	0.83	2	Released
6	FHSC	196	60	M	A	Angling - Jigging	ANJ21	DPF	17W	0503435 7976604	-	ANJ21	-	2024-08-10	13:02	-	13:52	0.83	2	Released
7	FHSC	206	70	M	A	Angling - Jigging	ANJ21	DPF	17W	0503435 7976604	-	ANJ21	-	2024-08-10	13:02	-	13:52	0.83	2	Released
1	GRCD	628	3190	U	U	Angling - Jigging	ANJ22	DPF	17W	0503344 7976684	-	ANJ22	-	2024-08-10	14:54	-	15:20	0.43	16	Released
2	SHSC	274	250	F	A	Angling - Jigging	ANJ22	DPF	17W	0503344 7976684	-	ANJ22	-	2024-08-10	14:54	-	15:20	0.43	16	Released
1	SHSC	256	195	F	A	Angling - Jigging	ANJ23	IPF	17W	0505740 7978478	-	ANJ23	-	2024-08-11	8:43	-	9:13	0.50	16	Released
2	SHSC	285	300	M	A	Angling - Jigging	ANJ23	IPF	17W	0505740 7978478	-	ANJ23	-	2024-08-11	8:43	-	9:13	0.50	16	Released
3	SHSC	233	145	M	A	Angling - Jigging	ANJ23	IPF	17W	0505740 7978478	-	ANJ23	-	2024-08-11	8:43	-	9:13	0.50	16	Released
4	SHSC	230	130	F	A	Angling - Jigging	ANJ23	IPF	17W	0505740 7978478	-	ANJ23	-	2024-08-11	8:43	-	9:13	0.50	16	Released
1	FHSC	300	300	F	-	Angling - Jigging	ANJ24	IPF	17W	0505263 7978024	-	ANJ24	-	2024-08-11	10:20	-	10:39	0.32	2	Released
2	FHSC	255	210	F	-	Angling - Jigging	ANJ24	IPF	17W	0505263 7978024	-	ANJ24	-	2024-08-11	10:20	-	10:39	0.32	2	Released
3	FHSC	261	110	M	-	Angling - Jigging	ANJ24	IPF	17W	0505263 7978024	-	ANJ24	-	2024-08-11	10:20	-	10:39	0.32	2	Released
4	SHSC	250	190	M	-	Angling - Jigging	ANJ24	IPF	17W	0505263 7978024	-	ANJ24	-	2024-08-11	10:20	-	10:39	0.32	2	Released
5	SHSC	242	160	M	-	Angling - Jigging	ANJ24	IPF	17W	0505263 7978024	-	ANJ24	-	2024-08-11	10:20	-	10:39	0.32	2	Released
6	SHSC	266	270	F	-	Angling - Jigging	ANJ24	IPF	17W	0505263 7978024	-	ANJ24	-	2024-08-11	10:20	-	10:39	0.32	2	Released
7	SHSC	224	170	M	-	Angling - Jigging	ANJ24	IPF	17W	0505263 7978024	-	ANJ24	-	2024-08-11	10:20	-	10:39	0.32	2	Released
8	SHSC	242	180	M	-	Angling - Jigging	ANJ24	IPF	17W	0505263 7978024	-	ANJ24	-	2024-08-11	10:20	-	10:39	0.32	2	Released
9	SHSC	225	150	M	-	Angling - Jigging	ANJ24	IPF	17W	0505263 7978024	-	ANJ24	-	2024-08-11	10:20	-	10:39	0.32	2	Released
10	SHSC	300	390	F	-	Angling - Jigging	ANJ24	IPF	17W	0505263 7978024	-	ANJ24	-	2024-08-11	10:20	-	10:39	0.32	2	Released
11	FHSC	235	90	M	-	Angling - Jigging	ANJ24	IPF	17W	0505263 7978024	-	ANJ24	-	2024-08-11	10:20	-	10:39	0.32	2	Released
12	SHSC	198	65	M	-	Angling - Jigging	ANJ24	IPF	17W	0505263 7978024	-	ANJ24	-	2024-08-11	10:20	-	10:39	0.32	2	Released
1	GRCD	576	2400	U	U	Angling - Jigging	ANJ25	DPF	17W	0503212 7976626	-	ANJ25	-	2024-08-12	14:55	-	15:18	0.38	18	Released
2	SHSC	248	160	F	A	Angling - Jigging	ANJ25	DPF	17W	0503212 7976626	-	ANJ25	-	2024-08-12	14:55	-	15:18	0.38	18	Released
3	SHSC	266	240	F	A	Angling - Jigging	ANJ25	DPF	17W	0503212 7976626	-	ANJ25	-	2024-08-12	14:55	-	15:18	0.38	18	Released
1	SHSC	320	450	F	A	Angling - Jigging	ANJ26	DPF	17W	0503349 7976648	-	ANJ26	-	2024-08-12	16:25	-	16:49	0.40	10	Released
2	SHSC	295	355	F	A	Angling - Jigging	ANJ26	DPF	17W	0503349 7976648	-	ANJ26	-	2024-08-12	16:25	-	16:49	0.40	10	Released
NFC	-	-	-	-	-	Angling - Jigging	ANJ27	IPF	17W	0505241 7977780	-	ANJ27	-	2024-08-13	15:03	-	15:30	0.45	3	-
NFC	-	-	-	-	-	Angling - Jigging	ANJ28	IPF	17W	0505265 7978052	0505162 7977671	ANJ28	-	2024-08-13	15:47	-	16:10	0.38	3	-
1	GRCD	592	2600	U	A	Angling - Jigging	ANJ29	DPF	17W	0503204 7976608	-	ANJ29	-	2024-08-15	14:50	-	15:57	1.12	18	Released
2	GRCD	644	3490	U	A	Angling - Jigging	ANJ29	DPF	17W	0503204 7976608	-	ANJ29	-	2024-08-15	14:50	-	15:57	1.12	18	Released
3	GRCD	532	1440	U	A	Angling - Jigging	ANJ29	DPF	17W	0503204 7976608	-	ANJ29	-	2024-08-15	14:50	-	15:57	1.12	18	Released
4	GRCD	419	820	U	A	Angling - Jigging	ANJ29	DPF	17W	0503204 7976608	-	ANJ29	-	2024-08-15	14:50	-	15:57	1.12	18	Released
5	GRCD	528	1610	U	A	Angling - Jigging	ANJ29	DPF	17W	0503204 7976608	-	ANJ29	-	2024-08-15	14:50	-	15:57	1.12	18	Released
6	SHSC	311	410	F	A	Angling - Jigging	ANJ29	DPF	17W	0503204 7976608	-	ANJ29	-	2024-08-15	14:50	-	15:57	1.12	18	Released
1	ARSC	226	140	F	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
2	SHSC	256	220	F	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
3	SHSC	207	110	M	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
4	ARSC	184	80	F	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
5	SHSC	247	180	F	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
6	SHSC	183	80	U	U	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
7	ARSC	195	105	U	U	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
8	SHSC	215	110	M	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
9	ARSC	180	90	M	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
10	SHSC	269	250	F	-	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
11	SHSC	107	10	U	J	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
12	SHSC	100	-	U	J	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
13	SHSC	90	-	U	J	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
14	FHSC	190	45	F	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
15	FHSC	163	40	F	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
16	FHSC	165	30	F	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
17	FHSC	183	50	F	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
18	FHSC	206	74.1	F	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Euthanized
19	FHSC	249	164.9	F	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Euthanized
20	FHSC	225	124.3	F	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Euthanized
21	FHSC	231	153.9	F	A	Angling - Jigging	ANJ30	REF-K	17X	0509100 8000848	0509507 8000493	ANJ30	-	2024-08-16	9:55	-	11:22	1.45	1.5	Released
1	ARCH	725	8110	U	A	Angling - Jigging	ANJ31	REF-K	17X	0509175 8000794	-	ANJ31	-	2024-08-16	12:00	-	12:55	0.92	1	Released
2	ARCH	278	150	U	J	Angling - Jigging	ANJ31	REF-K	17X	0509175 8000794	-	ANJ31	-	2024-08-16	12:00	-	12:55	0.92	1	Released
3	ARCH	309	300	U	J	Angling - Jigging	ANJ31	REF-K	17X	0509175 8000794	-	ANJ31	-	2024-08-16	12:00	-	12:55	0.92	1	Released
4	ARCH	414	830	U	U	Angling - Jigging	ANJ31	REF-K	17X	0509175 8000794	-	ANJ31	-	2024-08-16	12:00	-	12:55	0.92	1	Released
5	SHSC	245	210	M	A	Angling - Jigging	ANJ31	REF-K	17X	0509175 8000794	-	ANJ31	-	2024-08-16	12:00	-	12:55	0.92	1	Released
6	SHSC	248	220	M	A	Angling - Jigging	ANJ31	REF-K	17X	0509175 8000794	-	ANJ31	-	2024-08-16	12:00	-	12:55	0.92	1	Released
7	SHSC	237	160	F	A	Angling - Jigging	ANJ31	REF-K	17X	0509175 8000794	-	ANJ31	-	2024-08-16	12:00	-	12:55	0.92	1	Released
8	SHSC	234	140	F	A	Angling - Jigging	ANJ31	REF-K	17X	0509175 8000794	-	ANJ31	-	2024-08-16	12:00	-	12:55	0.92	1	Released
9	SHSC	208	120	F	A	Angling - Jigging	ANJ31	REF-K	17X	0509175 8000794	-	ANJ31	-	2024-08-16	12:00	-	12:55	0.92	1	Released
10	FHSC	200	73.3	F	A	Angling - Jigging	ANJ31	REF-K	17X	0509175 8000794	-	ANJ31	-	2024-08-16	12:00	-	12:55	0.92	1	Released
11	FHSC	174	48.4	M	A	Angling - Jigging	ANJ31	REF-K	17X	0509175 8000794	-	ANJ31	-	2024-08-16	12:00	-	12:55	0.92	1	Euthanized
1	ARSC	213	120	F	A	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
2	ARSC	215	200	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
3	SHSC	319	420	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
4	ARSC	225	150	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
5	SHSC	290	275	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
6	ARSC	191	105	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
7	SHSC	235	150	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
8	SHSC	304	300	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
9	SHSC	250	190	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
10	ARSC	200	110	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
11	SHSC	220	145	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
12	SHSC	230	170	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
13	SHSC	254	200	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
14	ARSC	195	95	M	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
15	ARSC	200	100	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
16	SHSC	185	190	M	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
17	SHSC	215	135	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
18	ARSC	193	195	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
19	SHSC	236	165	M	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
20	ARSC	173	80	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
21	ARSC	105	120	M	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
2	ARSC	216	130	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
23	FHSC	207	74.4	F	-	Angling - Jigging	ANJ32	REF-K	17X	0509548 8000440	-	ANJ32	-	2024-08-16	13:00	-	14:00	1.00	1.5	Released
1	UNSC	223	175.3	-	-	Angling - Jigging	ANJ33	IPF	17W	0502556 7978656	-	ANJ33	-	2024-08-18	9:30	-	10:12	0.70	4.5	Released
2	STSC	157	53.1	-	-	Angling - Jigging	ANJ33	IPF	17W	0502556 7978656	-	ANJ33	-	2024-08-18	9:30	-	10:12	0.70	4.5	Released
3	STSC	159	50	-	-	Angling - Jigging	ANJ33	IPF	17W	0502556 7978656	-	ANJ33	-	2024-08-18	9:30	-	10:12	0.70	4.5	Mortality
4	FHSC	271	280	F	A	Angling - Jigging	ANJ33	IPF	17W	0502556 7978656	-	ANJ33	-	2024-08-18	9:30	-	10:12	0.70	4.5	Released
5	STSC	208	130	U	U	Angling - Jigging	ANJ33	IPF	17W	0502556 7978656	-	ANJ33	-	2024-08-18	9:30	-	10:12	0.70	4.5	Released
6	STSC	182	100	U	U	Angling - Jigging	ANJ33	IPF	17W	0502556 7978656	-	ANJ33	-	2024-08-18	9:30	-	10:12	0.70	4.5	Released
7	FHSC	275	250	F	A	Angling - Jigging	ANJ33	IPF	17W	0502556 7978656	-	ANJ33	-	2024-08-18	9:30	-	10:12	0.70	4.5	Released
8	FHSC	257	180	M	A	Angling - Jigging	ANJ33	IPF	17W	0502556 7978656	-	ANJ33	-	2024-08-18	9:30	-	10:12	0.70	4.5	Released
9	FHSC	274	230	M	A	Angling - Jigging	ANJ33	IPF	17W	0502556 7978656	-	ANJ33	-	2024-08-18	9:30	-	10:12	0.70	4.5	Released
10	SHSC	226	160	F	A	Angling - Jigging	ANJ33	IPF	17W	0502556 7978656	-	ANJ33	-	2024-08-18	9:30	-	10:12	0.70	4.5	Released
11	SHSC	183	90	F	A	Angling - Jigging	ANJ33	IPF	17W	0502556 7978656	-	ANJ33	-	2024-08-18	9:30	-	10:12	0.70	4.5	Released
12	FHSC	234	140	M	A	Angling - Jigging	ANJ33	IPF	17W	0502556 7978656	-	ANJ33	-	2024-08-18	9:30	-	10:12	0.70	4.5	Released
13	FHSC	220	95	M	A	Angling - Jigging	ANJ33	IPF	17W	0502556 7978656	-	ANJ33	-	2024-08-18	9:30	-	10:12	0.70	4.5	Released
14	STSC	121	25	U	U	Angling - Jigging	ANJ33	IPF	17W	0502556 7978656	-	ANJ33	-	2024-08-18	9:30	-	10:12	0.70	4.5	Released
1	ARCH	364	280	U	U	Gill Net	GN01	REF - K	17X	508723 8000871	508642 8000803	GN01A	GN01B	2024-08-03	9:50	2024-08-03	12:10	2.33	-	Released
2	ARCH	261	90	U	U	Gill Net	GN01	REF - K	17X	508723 8000871	508642 8000803	GN01A	GN01B	2024-08-03	9:50	2024-08-03	12:10	2.33	-	Released
3	ARCH	400	550	U	U	Gill Net	GN01	REF - K	17X	508723 8000871	508642 8000803	GN01A	GN01B	2024-08-03	9:50	2024-08-03	12:10	2.33	-	Released
4	ARCH	190	50	U	U	Gill Net	GN01	REF - K	17X	508723 8000871	508642 8000803	GN01A	GN01B	2024-08-03	9:50	2024-08-03	12:10	2.33	-	Released
5	SHSC	251	180	U	U	Gill Net	GN01	REF - K	17X	508723 8000871	508642 8000803	GN01A	GN01B	2024-08-03	9:50	2024-08-03	12:10	2.33	-	Released
6	ARSC	248	180	U	U	Gill Net	GN01	REF - K	17X	508723 8000871	508642 8000803	GN01A	GN01B	2024-08-03	9:50	2024-08-03	12:10	2.33	-	Released
7	SHSC	220	140	U	U	Gill Net	GN01	REF - K	17X	508723 8000871	508642 8000803	GN01A	GN01B	2024-08-03	9:50	2024-08-03	12:10	2.33	-	Released
8	SHSC	280	280	U	U	Gill Net	GN01	REF - K	17X	508723 8000871	508642 8000803	GN01A	GN01B	2024-08-03	9:50	2024-08-03	12:10	2.33	-	Released
9	FHSC	283	271.1	F	A	Gill Net	GN01	REF - K	17X	508723 8000871	508642 8000803	GN01A	GN01B	2024-08-03	9:50	2024-08-03	12:10	2.33	-	Euthanized
10	FHSC	298	262.2	F	A	Gill Net	GN01	REF - K	17X	508723 8000871	508642 8000803	GN01A	GN01B	2024-08-03	9:50	2024-08-03	12:10	2.33	-	Euthanized

Table 6. 2024 Fishing Catch Data, Milne Inlet

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
11	ARCH	-	-	U	U	Gill Net	GN01	REF - K	17X	508723 8000871	508642 8000803	GN01A	GN01B	2024-08-03	9:50	2024-08-03	12:10	2.33	-	Observed
12	ARCH	-	-	U	U	Gill Net	GN01	REF - K	17X	508723 8000871	508642 8000803	GN01A	GN01B	2024-08-03	9:50	2024-08-03	12:10	2.33	-	Observed
13	ARCH	-	-	U	U	Gill Net	GN01	REF - K	17X	508723 8000871	508642 8000803	GN01A	GN01B	2024-08-03	9:50	2024-08-03	12:10	2.33	-	Observed
1	ARCH	315	280	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
2	ARCH	216	80	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
3	ARCH	325	140	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
4	ARCH	290	210	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
5	ARCH	306	210	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
6	ARCH	291	210	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
7	ARCH	284	180	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
8	ARCH	256	90	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
9	ARCH	309	250	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
10	ARCH	394	280	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
11	ARCH	520	2990	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
12	ARCH	264	400	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
13	ARCH	266	400	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
14	ARCH	274	400	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
15	ARCH	364	990	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
16	ARCH	290	280	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
17	ARCH	214	200	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
18	ARCH	216	200	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
19	ARCH	353	660	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
20	ARCH	220	200	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
21	ARCH	272	280	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
22	ARCH	259	280	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
23	ARCH	286	380	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
24	ARCH	387	840	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Mortality
25	ARCH	352	790	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Mortality
26	ARCH	343	460	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
27	ARCH	346	260	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Mortality
28	ARCH	315	540	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
29	ARCH	294	400	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Mortality
30	ARCH	282	400	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
31	ARCH	268	260	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
32	ARCH	206	160	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
33	ARCH	230	160	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
34	ARCH	323	420	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Mortality
35	ARCH	216	640	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
36	ARCH	369	880	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
37	ARCH	312	380	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Mortality
38	ARCH	330	500	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
39	ARCH	265	248	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
40	ARCH	241	240	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
41	ARCH	245	240	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Mortality
42	ARCH	296	380	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
43	ARCH	296	500	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
44	ARCH	297	300	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
45	ARCH	290	300	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
46	ARCH	265	300	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
47	ARCH	291	320	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Mortality
48	ARCH	281	320	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
49	ARCH	286	320	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
50	ARCH	376	1160	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Mortality
51	ARCH	342	800	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
52	ARCH	256	300	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
53	ARCH	246	290	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
54	ARCH	377	420	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Mortality
55	ARCH	241	110	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
56	ARCH	221	70	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
57	ARCH	222	70	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
58	ARCH	210	160	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
59	ARCH	302	210	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
60	ARCH	260	100	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
61	ARCH	238	100	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Mortality
62	ARCH	280	140	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
63	ARCH	272	110	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
64	ARCH	271	140	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
65	ARCH	285	170	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
66	ARCH	317	220	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Mortality
67	ARCH	255	130	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
68	ARCH	243	130	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
69	ARCH	235	80	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
70	ARCH	286	190	U	U	Gill Net	GN02	REF - K	17X	508612 8000821	508580 8000737	GN02A	GN02B	2024-08-03	9:58	2024-08-03	10:58	1.00	-	Released
1	SHSC	195	90	M	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
2	SHSC	245	175	M	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
3	SHSC	287	255	F	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
4	SHSC	207	130	M	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
5	SHSC	225	165	M	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
6	SHSC	234	170	F	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
7	SHSC	195	100	M	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
8	SHSC	260	240	F	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
9	SHSC	216	105	F	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
10	SHSC	198	100	M	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
11	SHSC	225	160	F	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
12	SHSC	218	150	M	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
13	FHSC	285	230	M	A	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Euthanized
14	ARCH	505	1200	U	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
15	ARCH	390	500	U	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
16	ARCH	618	2650	U	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
17	FHSC	230	130	F	A	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Euthanized
18	FHSC	302	290	F	A	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Euthanized
19	FHSC	236	130	M	A	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Euthanized
20	STSC	206	160	U	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
21	SHSC	196	95	M	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
22	SHSC	262	230	F	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
23	SHSC	209	125	M	U	Gill Net	GN03	REF - K	17X	508775 8000904	508815 8000851	GN03A	GN03B	2024-08-03	10:00	2024-08-03	14:09	4.15	-	Released
1	ARCH	146	25	U	J	Gill Net	GN04	REF - K	17X	508826 8000883	508876 8000856	GN04A	GN04B	2024-08-03	10:07	2024-08-03	14:30	4.38	-	Released
2	FHSC	206	70	F	A	Gill Net	GN04	REF - K	17X	508826 8000883	508876 8000856	GN04A	GN04B	2024-08-03	10:07	2024-08-03	14:30	4.38	-	Euthanized
3	FHSC	189	55	F	A	Gill Net	GN04	REF - K	17X	508826 8000883	508876 8000856	GN04A	GN04B	2024-08-03	10:07	2024-08-03	14:30	4.38	-	Euthanized
4	SHSC	213	130	M	U	Gill Net	GN04	REF - K	17X	508826 8000883	508876 8000856	GN04A	GN04B	2024-08-03	10:07	2024-08-03	14:30	4.38	-	Released
5	FHSC	180	50	F	U	Gill Net	GN04	REF - K	17X	508826 8000883	508876 8000856	GN04A	GN04B	2024-08-03	10:07	2024-08-03	14:30	4.38	-	Released
6	SHSC	215	120	F	U	Gill Net	GN04	REF - K	17X	508826 8000883	508876 8000856	GN04A	GN04B	2024-08-03	10:07	2024-08-03	14:30	4.38	-	Released
7	SHSC	267	240	M	U	Gill Net	GN04	REF - K	17X	508826 8000883	508876 8000856	GN04A	GN04B	2024-08-03	10:07	2024-08-03	14:30	4.38	-	Released
8	FHSC	255	150	F	A	Gill Net	GN04	REF - K	17X	508826 8000883	508876 8000856	GN04A	GN04B	2024-08-03	10:07	2024-08-03	14:30	4.38	-	Euthanized
9	ARCH	750	4300	U	U	Gill Net	GN04	REF - K	17X	508826 8000883	508876 8000856	GN04A	GN04B	2024-08-03	10:07	2024-08-03	14:30	4.38	-	Released
10	FHSC	179	60	M	U	Gill Net	GN04	REF - K	17X	508826 8000883	508876 8000856	GN04A	GN04B	2024-08-03	10:07	2024-08-03	14:30	4.38	-	Released
11	FHSC	216	100	M	A	Gill Net	GN04	REF - K	17X	508826 8000883	508876 8000856	GN04A	GN04B	2024-08-03	10:07	2024-08-03	14:30	4.38	-	Euthanized
12	FHSC	259	190	F	A	Gill Net	GN04	REF - K	17X	508826 8000883	508876 8000856	GN04A	GN04B	2024-08-03	10:07	2024-08-03	14:30	4.38	-	Euthanized
13	FHSC	-	-	U	U	Gill Net	GN04	REF - K	17X	508826 8000883	508876 8000856	GN04A	GN04B	2024-08-03	10:07	2024-08-03	14:30	4.38	-	Observed
14	ARCH	-	-	U	U	Gill Net	GN04	REF - K	17X	508826 8000883	508876 8000856	GN04A	GN04B	2024-08-03	10:07	2024-08-03	14:30	4.38	-	Observed
1	ARCH	465	980	U	U	Gill Net	GN05	REF - K	17X	508594 8000812	508694 8000841	GN05A	GN05B	2024-08-03	12:24	2024-08-03	14:01	1.62	-	Released
2	ARCH	428	660	U	U	Gill Net	GN05	REF - K	17X	508594 8000812	508694 8000841	GN05A	GN05B	2024-08-03	12:24	2024-08-03	14:01	1.62	-	Released
3	ARCH	332	300	U	U	Gill Net	GN05	REF - K	17X	508594 8000812	508694 8000841	GN05A	GN05B	2024-08-03	12:24	2024-08-03	14:01	1.62	-	Released
4	SHSC	245	160	U	U	Gill Net	GN05	REF - K	17X	508594 8000812	508694 8000841	GN05A	GN05B	2024-08-03	12:24	2024-08-03	14:01	1.62	-	Released
5	SHSC	285	240	U	U	Gill Net	GN05	REF - K	17X	508594 8000812	508694 8000841	GN05A	GN05B	2024-08-03	12:24	2024-08-03	14:01	1.62	-	Released
6	SHSC	195	110	U	U	Gill Net	GN05	REF - K	17X	508594 8000812	508694 8000841	GN05A	GN05B	2024-08-03	12:24	2024-08-03	14:01	1.62	-	Released
1	ARCH	-	-	U	U	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Observed
2	ARCH	-	-	U	U	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Observed
3	FHSC	-	-	U	U	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Observed
4	ARCH	549	1170	U	U	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Released
5	ARCH	435	920	U	U	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Released
6	ARCH	403	780	U	U	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
7	ARCH	383	610	U	U	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Released
8	ARCH	148	30	U	U	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Released
9	ARCH	387	460	U	U	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Released
10	ARCH	389	440	U	U	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Released
11	ARCH	406	610	U	U	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Released
12	ARCH	365	460	U	U	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Released
13	FHSC	220	115	F	A	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Released
14	FHSC	222	105	M	A	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Released
15	FHSC	215	95	M	A	Gill Net	GN06	IPF	17W	504357 7976464	504366 7976547	GN06A	GN06B	2024-08-06	11:40	2024-08-06	14:57	3.28	-	Released
1	ARCH	335	400	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
2	ARCH	312	450	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
3	ARCH	410	820	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
4	ARCH	410	820	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
5	ARCH	305	230	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
6	ARCH	130	20	U	J	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
7	FHSC	230	110	M	A	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
8	ARCH	436	1030	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Mortality
9	ARCH	448	2010	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
10	ARCH	385	1500	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
11	ARCH	420	1620	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
12	ARCH	407	1760	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
13	ARCH	440	930	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
14	ARCH	550	3920	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
15	ARCH	485	2140	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Mortality
16	ARCH	403	1620	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
17	ARCH	406	1540	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Mortality
18	ARCH	435	1950	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Mortality
19	ARCH	500	3020	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Mortality
20	ARCH	399	1500	U	U	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Mortality
21	FHSC	235	150	F	A	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
22	FHSC	225	110	F	A	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
23	FHSC	245	130	M	A	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
24	FHSC	220	120	F	A	Gill Net	GN07	DPF	17W	503001 7976344	502941 7976416	GN07A	GN07B	2024-08-06	15:10	2024-08-06	17:09	1.98	-	Released
1	FHSC	308	295	F	U	Gill Net	GN08	IPF	17W	505190 7977511	505157 7977443	GN08A	GN08B	2024-08-07	9:05	2024-08-07	11:24	2.32	-	Released
2	FHSC	232	105	M	U	Gill Net	GN08	IPF	17W	505190 7977511	505157 7977443	GN08A	GN08B	2024-08-07	9:05	2024-08-07	11:24	2.32	-	Released
3	FHSC	264	170	F	U	Gill Net	GN08	IPF	17W	505190 7977511	505157 7977443	GN08A	GN08B	2024-08-07	9:05	2024-08-07	11:24	2.32	-	Released
4	FHSC	250	160	F	U	Gill Net	GN08	IPF	17W	505190 7977511	505157 7977443	GN08A	GN08B	2024-08-07	9:05	2024-08-07	11:24	2.32	-	Released
5	FHSC	256	190	F	U	Gill Net	GN08	IPF	17W	505190 7977511	505157 7977443	GN08A	GN08B	2024-08-07	9:05	2024-08-07	11:24	2.32	-	Released
6	FHSC	195	80	M	U	Gill Net	GN08	IPF	17W	505190 7977511	505157 7977443	GN08A	GN08B	2024-08-07	9:05	2024-08-07	11:24	2.32	-	Released
7	FHSC	195	50	M	U	Gill Net	GN08	IPF	17W	505190 7977511	505157 7977443	GN08A	GN08B	2024-08-07	9:05	2024-08-07	11:24	2.32	-	Released
1	FHSC	227	130	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
2	ARCH	271	1917	U	J	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Mortality
3	ARCH	400	233	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Mortality
4	ARCH	310	320	U	U	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
5	FHSC	245	170	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
6	FHSC	236	140	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
7	FHSC	243	160	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
8	FHSC	228	120	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
9	FHSC	223	130	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
10	FHSC	247	190	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
11	FHSC	222	140	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
12	FHSC	219	110	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
13	FHSC	242	130	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
14	FHSC	250	200	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
15	FHSC	216	100	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
16	FHSC	254	190	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
17	FHSC	222	120	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
18	FHSC	236	110	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
19	FHSC	226	140	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
20	FHSC	223	140	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
21	FHSC	210	90	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
22	FHSC	250	190	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
23	FHSC	288	190	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
24	FHSC	225	120	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
25	FHSC	230	120	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
26	FHSC	211	100	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
27	FHSC	225	120	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
28	FHSC	206	90	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
29	FHSC	218	140	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
30	FHSC	215	110	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
31	FHSC	243	130	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
32	FHSC	248	170	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
33	FHSC	216	120	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
34	FHSC	226	115	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
35	FHSC	218	100	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
36	FHSC	243	150	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
37	FHSC	219	110	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
38	FHSC	247	150	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
39	FHSC	216	100	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
40	FHSC	224	130	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
41	FHSC	229	115	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
42	FHSC	239	140	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
43	FHSC	240	140	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
44	FHSC	226	120	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
45	FHSC	217	90	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
46	FHSC	225	120	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
47	FHSC	236	150	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
48	FHSC	234	105	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
49	FHSC	229	120	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
50	FHSC	211	90	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
51	FHSC	214	110	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
52	FHSC	199	70	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
53	FHSC	248	140	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
54	FHSC	229	110	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
55	FHSC	210	80	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
56	FHSC	201	80	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
57	FHSC	212	90	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
58	FHSC	222	95	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
59	FHSC	225	110	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
60	FHSC	204	90	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
61	FHSC	209	110	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
62	FHSC	228	130	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
63	FHSC	200	80	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
64	FHSC	190	70	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
65	FHSC	212	90	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
66	FHSC	215	120	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
67	FHSC	228	170	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
68	FHSC	255	190	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
69	FHSC	218	172	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
70	FHSC	232	120	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
71	FHSC	168	40	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
72	FHSC	204	90	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
73	FHSC	195	50	M	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
74	FHSC	216	95	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
75	FHSC	207	90	U	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
76	FHSC	180	50	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
77	FHSC	178	50	F	A	Gill Net	GN09	DPF	17W	503897 7976610	503861 7976529	GN09A	GN09B	2024-08-07	12:54	2024-08-07	15:30	2.60	-	Released
1	ARCH	337	400	U	U	Gill Net	GN10	DPF	17W	503568 7976410	503539 7976466	GN10A	GN10B	2024-08-07	13:05	2024-08-07	14:43	1.63	-	Released
2	ARCH	474	1010	U	U	Gill Net	GN10	DPF	17W	503568 7976410	503539 7976466	GN10A	GN10B	2024-08-07	13:05	2024-08-07	14:43	1.63	-	Released
3	ARCH	388	650	U	U	Gill Net	GN10	DPF	17W	503568 7976410	503539 7976466	GN10A	GN10B	2024-08-07	13:05	2024-08-07	14:43	1.63	-	Released
4	ARCH	537	2100	U	U	Gill Net	GN10	DPF	17W	503568 7976410	503539 7976466	GN10A	GN10B	2024-08-07	13:05	2024-08-07	14:43	1.63	-	Released
5	ARCH	386	610	U	U	Gill Net	GN10	DPF	17W	503568 7976410	503539 7976466	GN10A	GN10B	2024-08-07	13:05	2024-08-07	14:43	1.63	-	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
6	FHSC	188	60	F	A	Gill Net	GN10	DPF	17W	503568 7976410	503539 7976466	GN10A	GN10B	2024-08-07	13:05	2024-08-07	14:43	1.63	-	Released
7	FHSC	189	70	F	A	Gill Net	GN10	DPF	17W	503568 7976410	503539 7976466	GN10A	GN10B	2024-08-07	13:05	2024-08-07	14:43	1.63	-	Released
8	FHSC	193	80	M	A	Gill Net	GN10	DPF	17W	503568 7976410	503539 7976466	GN10A	GN10B	2024-08-07	13:05	2024-08-07	14:43	1.63	-	Released
9	FHSC	178	50	F	A	Gill Net	GN10	DPF	17W	503568 7976410	503539 7976466	GN10A	GN10B	2024-08-07	13:05	2024-08-07	14:43	1.63	-	Released
10	FHSC	205	95	F	A	Gill Net	GN10	DPF	17W	503568 7976410	503539 7976466	GN10A	GN10B	2024-08-07	13:05	2024-08-07	14:43	1.63	-	Released
11	FHSC	172	50	F	A	Gill Net	GN10	DPF	17W	503568 7976410	503539 7976466	GN10A	GN10B	2024-08-07	13:05	2024-08-07	14:43	1.63	-	Released
12	FHSC	184	55	F	A	Gill Net	GN10	DPF	17W	503568 7976410	503539 7976466	GN10A	GN10B	2024-08-07	13:05	2024-08-07	14:43	1.63	-	Released
1	ARCH	-	-	U	U	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Observed
2	ARCH	483	1320	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
3	ARCH	525	1880	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
4	ARCH	421	870	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
5	ARCH	475	1210	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
6	ARCH	405	700	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
7	ARCH	525	1560	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
8	ARCH	466	1280	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
9	ARCH	446	820	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
10	ARCH	345	330	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
11	ARCH	362	490	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Mortality
12	ARCH	495	1590	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
13	ARCH	466	1370	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
14	ARCH	514	2040	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
15	ARCH	410	980	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
16	ARCH	405	980	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
17	ARCH	281	1570	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
18	ARCH	387	820	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
19	ARCH	430	1110	U	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
20	ARCH	137	20	U	J	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
21	ARCH	135	20	U	J	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Released
22	ARCH	420	9063	M	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Mortality
23	ARCH	478	1396.7	F	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Mortality
24	ARCH	551	2561.4	F	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Mortality
25	ARCH	491	3111.1	M	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Mortality
26	ARCH	371	545.4	F	A	Gill Net	GN11	IPF	17W	0504737 7976638	504776 7976723	GN11A	GN11B	2024-08-08	8:02	08-08-2024	11:12	3.17	-	Mortality
1	SHSC	270	240	M	A	Gill Net	GN12	IPF	17W	504974 7976576	504894 7976642	GN12A	GN12B	2024-08-08	8:40	08-08-2024	10:43	2.05	-	Released
2	SHSC	225	150	F	A	Gill Net	GN12	IPF	17W	504974 7976576	504894 7976642	GN12A	GN12B	2024-08-08	8:40	08-08-2024	10:43	2.05	-	Released
1	ARCH	685	4450	M	A	Gill Net	GN13	DPF	17W	503654 7976383	503668 7976466	GN13A	GN13B	2024-08-08	13:10	2024-08-08	14:42	1.53	-	Released
2	ARCH	469	1410	U	A	Gill Net	GN13	DPF	17W	503654 7976383	503668 7976466	GN13A	GN13B	2024-08-08	13:10	2024-08-08	14:42	1.53	-	Released
3	ARCH	517	2750	M	A	Gill Net	GN13	DPF	17W	503654 7976383	503668 7976466	GN13A	GN13B	2024-08-08	13:10	2024-08-08	14:42	1.53	-	Released
4	ARCH	295	220	U	U	Gill Net	GN13	DPF	17W	503654 7976383	503668 7976466	GN13A	GN13B	2024-08-08	13:10	2024-08-08	14:42	1.53	-	Observed
5	FHSC	170	60	F	A	Gill Net	GN13	DPF	17W	503654 7976383	503668 7976466	GN13A	GN13B	2024-08-08	13:10	2024-08-08	14:42	1.53	-	Released
6	FHSC	218	90	M	A	Gill Net	GN13	DPF	17W	503654 7976383	503668 7976466	GN13A	GN13B	2024-08-08	13:10	2024-08-08	14:42	1.53	-	Released
7	FHSC	186	70	M	A	Gill Net	GN13	DPF	17W	503654 7976383	503668 7976466	GN13A	GN13B	2024-08-08	13:10	2024-08-08	14:42	1.53	-	Released
8	FHSC	187	70	F	A	Gill Net	GN13	DPF	17W	503654 7976383	503668 7976466	GN13A	GN13B	2024-08-08	13:10	2024-08-08	14:42	1.53	-	Released
9	FHSC	182	50	F	A	Gill Net	GN13	DPF	17W	503654 7976383	503668 7976466	GN13A	GN13B	2024-08-08	13:10	2024-08-08	14:42	1.53	-	Released
10	FHSC	184	60	F	A	Gill Net	GN13	DPF	17W	503654 7976383	503668 7976466	GN13A	GN13B	2024-08-08	13:10	2024-08-08	14:42	1.53	-	Released
11	FHSC	195	80	F	A	Gill Net	GN13	DPF	17W	503654 7976383	503668 7976466	GN13A	GN13B	2024-08-08	13:10	2024-08-08	14:42	1.53	-	Released
12	ARCH	136	20	U	U	Gill Net	GN13	DPF	17W	503654 7976383	503668 7976466	GN13A	GN13B	2024-08-08	13:10	2024-08-08	14:42	1.53	-	Released
1	ARCH	461	1190	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
2	ARCH	404	730	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
3	ARCH	399	600	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
4	ARCH	365	530	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
5	ARCH	395	640	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
6	ARCH	375	600	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Mortality
7	ARCH	381	600	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
8	ARCH	380	540	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
9	ARCH	365	510	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
10	ARCH	390	550	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
11	ARCH	387	500	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
12	ARCH	359	450	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
13	ARCH	412	710	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Mortality
14	ARCH	386	650	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
15	ARCH	363	590	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Mortality
16	ARCH	395	630	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
17	ARCH	390	630	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
18	ARCH	374	590	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
19	ARCH	378	520	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
20	ARCH	653	4370	F	A	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
21	ARCH	374	590	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
22	ARCH	353	410	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
23	SHSC	200	60	M	A	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
24	SHSC	236	155	M	A	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
25	ARCH	570	2950	U	A	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
26	ARCH	361	430	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
27	ARCH	355	530	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
28	ARCH	382	350	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Mortality
29	ARCH	399	670	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Mortality
30	ARCH	365	510	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
31	ARCH	379	610	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Mortality
32	ARCH	365	550	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Mortality
33	ARCH	383	370	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
34	ARCH	328	330	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
35	ARCH	370	570	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
36	ARCH	400	800	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
37	ARCH	422	800	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
38	ARCH	420	760	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
39	ARCH	450	920	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Mortality
40	ARCH	350	420	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
41	ARCH	338	310	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
42	ARCH	330	450	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
43	ARCH	325	390	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
44	SHSC	211	140	F	A	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
45	ARSC	195	110	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
46	SHSC	236	130	F	A	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Released
47	FHSC	254	185.1	F	A	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Euthanized
48	FHSC	249	151.2	M	A	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Euthanized
49	FHSC	224	132.1	F	A	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Euthanized
50	ARCH	-	-	U	U	Gill Net	GN14	REF - K	17X	508597 8000806	508660 8000814	GN14A	GN14B	2024-08-09	9:30	2024-08-09	14:25	4.92	-	Observed
1	SHSC	260	195	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
2	SHSC	255	210	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
3	ARSC	216	110	F	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
4	SHSC	251	220	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
5	SHSC	211	150	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
6	SHSC	220	190	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
7	SHSC	152	135	F	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
8	SHSC	226	125	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
9	SHSC	195	90	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
10	SHSC	200	95	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
11	ARSC	208	105	F	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
12	SHSC	276	250	F	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
13	SHSC	390	820	F	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
14	SHSC	220	100	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
15	SHSC	205	110	F	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
16	SHSC	270	235	F	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
17	SHSC	303	360	F	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
18	SHSC	210	130	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
19	SHSC	250	205	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
20	SHSC	268	220	F	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
21	SHSC	225	140	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
22	SHSC	270	240	F	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
23	SHSC	220	140	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
24	SHSC	247	190	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
25	SHSC	200	100	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
26	SHSC	214	135	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
27	SHSC	242	200	F	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
28	SHSC	217	145	F	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
29	SHSC	207	100	F	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
30	SHSC	236	175	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
31	SHSC	207	100	M	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
32	SHSC	236	155	F	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
33	STSC	192	110	U	A	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Released
34	ARCH	-	-	U	U	Gill Net	GN15	REF - K	17X	508734 8000870	508826 8000873	GN15A	GN15B	2024-08-09	10:22	2024-08-09	13:39	3.28	-	Observed
1	SHSC	252	230	F	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
2	SHSC	251	190	M	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
3	SHSC	253	210	F	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
4	SHSC	229	140	F	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
5	SHSC	216	120	F	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
6	SHSC	338	520	F	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
7	ARCH	347	340	U	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
8	GRCD	517	1700	U	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
9	SHSC	265	220	F	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
10	STSC	153	60	U	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
11	ARSC	197	100	U	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
12	SHSC	190	100	F	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
13	STSC	160	50	U	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
14	SHSC	266	250	F	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
15	FHSC	256	259.8	F	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Euthanized
16	SHSC	233	165	F	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Released
17	FHSC	234	114.5	M	A	Gill Net	GN16	REF - K	17X	508905 8000878	508991 8000863	GN16A	GN16B	2024-08-09	10:28	2024-08-09	13:40	3.20	-	Euthanized
1	ARCH	355	310	U	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
2	ARCH	362	440	U	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
3	ARCH	356	350	U	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
4	ARCH	315	250	U	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
5	ARCH	360	370	U	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
6	ARCH	339	305	U	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
7	ARCH	399	470	U	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
8	ARCH	313	250	U	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
9	ARCH	315	270	U	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
10	SHSC	355	680	F	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
11	SHSC	222	150	M	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
12	STSC	180	40	U	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
13	SHSC	272	250	F	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
14	ARCH	320	300	U	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
15	SHSC	338	550	F	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
16	SHSC	234	190	F	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
17	SHSC	275	280	F	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
18	SHSC	265	300	F	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
19	SHSC	234	150	M	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
20	SHSC	292	350	M	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
21	SHSC	274	280	F	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
22	SHSC	245	200	M	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
23	SHSC	246	180	F	A	Gill Net	GN17	REF - K	17X	509026 8000860	509095 8000816	GN17A	GN17B	2024-08-09	10:44	2024-08-09	14:35	3.85	-	Released
1	ARCH	687	4550	U	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
2	ARCH	345	410	U	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
3	FHSC	244	170	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
4	FHSC	244	160	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
5	FHSC	243	140	M	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
6	FHSC	201	80	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
7	FHSC	200	90	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
8	FHSC	176	60	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
9	FHSC	212	70	M	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
10	FHSC	162	30	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
11	FHSC	225	120	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
12	FHSC	196	70	M	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
13	FHSC	217	80	M	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
14	FHSC	200	80	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
15	FHSC	179	50	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
16	FHSC	194	70	M	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
17	FHSC	212	80	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
18	FHSC	253	180	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
19	FHSC	210	80	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
20	FHSC	207	90	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
21	FHSC	205	100	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
22	FHSC	257	190	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
23	FHSC	262	200	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
24	FHSC	155	60	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
25	FHSC	234	140	M	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
26	FHSC	250	170	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
27	FHSC	188	50	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
28	FHSC	179	40	M	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
29	FHSC	189	50	M	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
30	FHSC	195	60	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
31	FHSC	176	40	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
32	FHSC	216	110	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
33	FHSC	209	100	M	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
34	FHSC	215	90	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
35	FHSC	200	60	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
36	FHSC	194	70	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
37	FHSC	190	60	F	A	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
38	FHSC	120	20	U	J	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
39	FHSC	111	10	U	J	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Released
40	UNSC	-	-	U	U	Gill Net	GN18	DPF	17W	503140 7976470	0503061 7976490	GN18A	GN18B	2024-08-10	11:32	2024-08-10	15:54	4.37	-	Mortality
1	ARCH	460	1170	U	U	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
2	ARCH	479	1380	M	A	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
3	ARCH	379	550	U	U	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
4	ARCH	-	-	U	U	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Observed
5	ARCH	-	-	U	U	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Observed
6	ARCH	-	-	U	U	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Observed
7	ARCH	-	-	U	U	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Observed
8	ARCH	-	-	U	U	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Observed
9	ARCH	362	500	U	U	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
10	ARCH	341	460	U	U	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
11	ARCH	387	670	U	U	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
12	GRCD	639	2710	U	U	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
13	FHSC	301	300	F	A	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
14	FHSC	225	50	M	A	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
15	FHSC	221	95	F	A	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
16	FHSC	233	155	F	A	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
17	FHSC	245	140	F	A	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
18	FHSC	261	195	M	A	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
19	FHSC	269	210	F	A	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
20	SHSC	272	240	F	A	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
21	SHSC	257	250	M	A	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
22	SHSC	232	190	F	A	Gill Net	GN19	IPF	17W	505190 7977600	505114 7977549	GN19A	GN19B	2024-08-11	8:12	2024-08-11	11:22	3.17	-	Released
1	ARCH	520	1310	M	A	Gill Net	GN20	IPF	17W	505277 7977815	505200 7977785	GN20A	GN20B	2024-08-11	8:21	2024-08-11	11:47	3.43	-	Released
2	ARCH	615	2600	U	A	Gill Net	GN20	IPF	17W	505277 7977815	505200 7977785	GN20A	GN20B	2024-08-11	8:21	2024-08-11	11:47	3.43	-	Released
3	ARCH	372	500	U	A	Gill Net	GN20	IPF	17W	505277 7977815	505200 7977785	GN20A	GN20B	2024-08-11	8:21	2024-08-11	11:47	3.43	-	Released
4	ARCH	487	1455.3	M	A	Gill Net	GN20	IPF	17W	505277 7977815	505200 7977785	GN20A	GN20B	2024-08-11	8:21	2024-08-11	11:47	3.43	-	Mortality
5	ARCH	349	410	U	U	Gill Net	GN20	IPF	17W	505277 7977815	505200 7977785	GN20A	GN20B	2024-08-11	8:21	2024-08-11	11:47	3.43	-	Released
6	SHSC	270	200	U	A	Gill Net	GN20	IPF	17W	505277 7977815	505200 7977785	GN20A	GN20B	2024-08-11	8:21	2024-08-11	11:47	3.43	-	Released
7	SHSC	270	260	M	A	Gill Net	GN20	IPF	17W	505277 7977815	505200 7977785	GN20A	GN20B	2024-08-11	8:21	2024-08-11	11:47	3.43	-	Released
8	SHSC	241	250	M	A	Gill Net	GN20	IPF	17W	505277 7977815	505200 7977785	GN20A	GN20B	2024-08-11	8:21	2024-08-11	11:47	3.43	-	Released
9	SHSC	232	150	M	A	Gill Net	GN20	IPF	17W	505277 7977815	505200 7977785	GN20A	GN20B	2024-08-11	8:21	2024-08-11	11:47	3.43	-	Released
10	FHSC	209	65	M	A	Gill Net	GN20	IPF	17W	505277 7977815	505200 7977785	GN20A	GN20B	2024-08-11	8:21	2024-08-11	11:47	3.43	-	Released
11	FHSC	257	150	F	A	Gill Net	GN20	IPF	17W	505277 7977815	505200 7977785	GN20A	GN20B	2024-08-11	8:21	2024-08-11	11:47	3.43	-	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
12	FHSC	231	105	F	A	Gill Net	GN20	IPF	17W	505277 7977815	505200 7977785	GN20A	GN20B	2024-08-11	8:21	2024-08-11	11:47	3.43	-	Released
13	ARCH	338	431.5	F	A	Gill Net	GN20	IPF	17W	505277 7977815	505200 7977785	GN20A	GN20B	2024-08-11	8:21	2024-08-11	11:47	3.43	-	Mortality
14	ARCH	315	338.9	F	A	Gill Net	GN20	IPF	17W	505277 7977815	505200 7977785	GN20A	GN20B	2024-08-11	8:21	2024-08-11	11:47	3.43	-	Mortality
NFC	-	-	-	-	-	Gill Net	GN21	DPF	17W	502926 7976288	502861 7976330	GN21A	GN21B	2024-08-12	14:23	2024-08-12	16:00	1.62	-	-
1	ARCH	600	2710	U	A	Gill Net	GN22	DPF	17W	502739 7976233	502764 7976297	GN22A	GN22B	2024-08-12	14:31	2024-08-12	16:09	1.63	-	Released
2	ARCH	370	520	U	U	Gill Net	GN22	DPF	17W	502739 7976233	502764 7976297	GN22A	GN22B	2024-08-12	14:31	2024-08-12	16:09	1.63	-	Released
1	ARCH	735	4260	M	A	Gill Net	GN23	IPF	17W	501566 7976927	505079 7976912	GN23A	GN23B	2024-08-13	14:35	2024-08-13	16:35	2.00	-	Released
2	ARCH	540	1820	U	A	Gill Net	GN23	IPF	17W	501566 7976927	505079 7976912	GN23A	GN23B	2024-08-13	14:35	2024-08-13	16:35	2.00	-	Released
3	ARCH	635	3540	U	A	Gill Net	GN23	IPF	17W	501566 7976927	505079 7976912	GN23A	GN23B	2024-08-13	14:35	2024-08-13	16:35	2.00	-	Released
4	ARCH	493	1390	U	A	Gill Net	GN23	IPF	17W	501566 7976927	505079 7976912	GN23A	GN23B	2024-08-13	14:35	2024-08-13	16:35	2.00	-	Released
5	ARCH	433	970	U	A	Gill Net	GN23	IPF	17W	501566 7976927	505079 7976912	GN23A	GN23B	2024-08-13	14:35	2024-08-13	16:35	2.00	-	Released
6	ARCH	404	700	U	A	Gill Net	GN23	IPF	17W	501566 7976927	505079 7976912	GN23A	GN23B	2024-08-13	14:35	2024-08-13	16:35	2.00	-	Released
7	ARCH	298	265	U	J	Gill Net	GN23	IPF	17W	501566 7976927	505079 7976912	GN23A	GN23B	2024-08-13	14:35	2024-08-13	16:35	2.00	-	Released
8	ARCH	196	65	U	J	Gill Net	GN23	IPF	17W	501566 7976927	505079 7976912	GN23A	GN23B	2024-08-13	14:35	2024-08-13	16:35	2.00	-	Released
9	FHSC	266	190	F	A	Gill Net	GN23	IPF	17W	501566 7976927	505079 7976912	GN23A	GN23B	2024-08-13	14:35	2024-08-13	16:35	2.00	-	Released
10	ARCH	-	-	U	U	Gill Net	GN23	IPF	17W	501566 7976927	505079 7976912	GN23A	GN23B	2024-08-13	14:35	2024-08-13	16:35	2.00	-	Observed
11	ARCH	-	-	U	U	Gill Net	GN23	IPF	17W	501566 7976927	505079 7976912	GN23A	GN23B	2024-08-13	14:35	2024-08-13	16:35	2.00	-	Observed
12	ARCH	-	-	U	U	Gill Net	GN23	IPF	17W	501566 7976927	505079 7976912	GN23A	GN23B	2024-08-13	14:35	2024-08-13	16:35	2.00	-	Observed
13	ARCH	-	-	U	U	Gill Net	GN23	IPF	17W	501566 7976927	505079 7976912	GN23A	GN23B	2024-08-13	14:35	2024-08-13	16:35	2.00	-	Observed
14	ARCH	-	-	U	U	Gill Net	GN23	IPF	17W	501566 7976927	505079 7976912	GN23A	GN23B	2024-08-13	14:35	2024-08-13	16:35	2.00	-	Observed
1	FHSC	285	350	F	A	Gill Net	GN24	IPF	17W	505200 7977615	505137 7977571	GN24A	GN24B	2024-08-13	14:50	2024-08-13	16:35	1.75	-	Released
2	FHSC	250	180	F	A	Gill Net	GN24	IPF	17W	505200 7977615	505137 7977571	GN24A	GN24B	2024-08-13	14:50	2024-08-13	16:35	1.75	-	Released
1	ARCH	413	710	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Mortality
2	ARCH	348	470	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
3	FHSC	186	60	F	A	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
4	ARCH	740	5390	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
5	ARCH	342	410	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
6	ARCH	351	450	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
7	ARCH	355	460	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
8	ARCH	398	590	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Mortality
9	ARCH	424	880	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
10	ARCH	390	630	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
11	ARCH	401	720	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
12	ARCH	312	330	U	J	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
13	ARCH	389	640	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
14	ARCH	320	305	U	J	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
15	ARCH	357	520	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
16	ARCH	377	540	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
17	ARCH	350	450	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
18	ARCH	265	205	U	J	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
19	ARCH	502	1410	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
20	ARCH	369	438	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
21	ARCH	511	1170	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
22	FHSC	-	-	F	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Observed
23	ARCH	-	-	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Observed
24	ARCH	-	-	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Observed
25	ARCH	-	-	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Observed
26	ARCH	293	310	U	J	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
27	ARCH	385	640	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
28	ARCH	317	385	U	J	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
29	ARCH	279	200	U	J	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
30	ARCH	332	395	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
31	ARCH	282	235	U	J	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
32	ARCH	518	1470	U	A	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Mortality
33	ARCH	336	375	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Mortality
34	ARCH	296	295	U	J	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Mortality
35	ARCH	352	420	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Released
36	ARCH	379	610	U	U	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Mortality
37	ARCH	297	270	U	J	Gill Net	GN25	REF - K	17X	509037 8000876	509119 8000841	GN25A	GN25B	2024-08-16	11:35	2024-08-16	14:30	2.92	-	Mortality
1	ARCH	621	3920	U	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
2	ARCH	522	2600	U	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
3	ARCH	600	4060	U	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
4	ARCH	431	850	U	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
5	ARCH	403	580	U	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
6	ARCH	404	759.6	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Mortality
7	SHSC	268	245	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
8	FHSC	265	210	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
9	FHSC	259	210	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
10	FHSC	232	135	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
11	FHSC	243	140	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
12	FHSC	205	85	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
13	FHSC	225	125	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
14	FHSC	256	180	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
15	FHSC	220	110	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
16	FHSC	271	235	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
17	FHSC	303	355	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
18	FHSC	261	185	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
19	FHSC	240	160	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
20	FHSC	239	170	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
21	FHSC	234	165	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
22	FHSC	227	115	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
23	FHSC	237	140	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
24	FHSC	251	130	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
25	FHSC	264	210	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
26	FHSC	233	140	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
27	FHSC	267	275	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
28	FHSC	253	180	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
29	FHSC	282	250	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
30	FHSC	286	250	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
31	FHSC	292	285	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
32	FHSC	268	255	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
33	FHSC	256	175	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
34	FHSC	220	100	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
35	FHSC	245	155	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
36	FHSC	277	235	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
37	FHSC	277	285	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
38	FHSC	215	105	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
39	FHSC	265	195	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
40	FHSC	215	100	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
41	FHSC	244	160	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
42	FHSC	258	200	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
43	FHSC	227	105	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
44	FHSC	245	190	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
45	FHSC	225	100	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
46	FHSC	203	85	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
47	FHSC	206	70	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
48	FHSC	213	95	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
49	FHSC	282	200	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
50	FHSC	297	330	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
51	FHSC	237	140	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
52	FHSC	238	130	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
53	FHSC	246	140	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
54	FHSC	223	100	M	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
55	ARCH	253	140	U	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Released
56	ARCH	370	500.1	F	A	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Mortality
57	ARCH	-	-	U	U	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Observed
58	ARCH	-	-	U	U	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Observed
59	ARCH	-	-	U	U	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Observed
60	ARCH	-	-	U	U	Gill Net	GN26	IPF	17W	502546 7978684	502547 7978596	GN26A	GN26B	2024-08-17	9:48	2024-08-17	12:35	2.78	-	Observed
1	ARCH	495	1430	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
2	ARCH	540	2250	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
3	ARCH	513	1660	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
4	ARCH	475	1190	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
5	ARCH	2630	4000	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
6	ARCH	890	7010	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
7	ARCH	750	3830	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
8	ARCH	626	3490	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
9	ARCH	661	4190	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
10	ARCH	613	3140	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
11	ARCH	601	2780	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
12	ARCH	485	1480	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
13	ARCH	564	2360	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
14	ARCH	606	2940	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
15	ARCH	570	2420	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
16	ARCH	428	810	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
17	ARCH	374	650	U	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
18	FHSC	252	180	M	A	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Released
19	ARCH	-	-	U	U	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Observed
20	ARCH	-	-	U	U	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Observed
21	ARCH	-	-	U	U	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Observed
22	ARCH	-	-	U	U	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Observed
23	ARCH	-	-	U	U	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Observed
24	ARCH	-	-	U	U	Gill Net	GN27	IPF	17W	501954 7978271	502017 7978188	GN27A	GN27B	2024-08-17	10:00	2024-08-17	14:10	4.17	-	Observed
1	ARCH	243	260	U	U	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
2	ARCH	265	210	U	U	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
3	ARCH	352	480	U	U	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
4	ARCH	-	-	U	U	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Observed
5	ARCH	-	-	U	U	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Observed
6	ARCH	453	1110	U	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
7	FHSC	273	200	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
8	FHSC	209	100	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
9	FHSC	190	65	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
10	FHSC	241	140	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
11	FHSC	215	90	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
12	FHSC	217	80	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
13	FHSC	179	60	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
14	FHSC	209	90	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
15	FHSC	218	95	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
16	FHSC	222	100	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
17	FHSC	198	80	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
18	FHSC	217	100	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
19	FHSC	218	95	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
20	FHSC	199	70	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
21	FHSC	178	40	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
22	FHSC	223	120	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
23	FHSC	205	95	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
24	FHSC	205	80	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
25	FHSC	196	60	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
26	FHSC	221	140	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
27	FHSC	237	130	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
28	FHSC	194	60	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
29	FHSC	209	90	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
30	FHSC	214	120	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
31	FHSC	225	100	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
32	FHSC	114	10	U	J	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
33	FHSC	219	110	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
34	FHSC	221	120	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
35	FHSC	200	80	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
36	FHSC	209	100	F	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
37	FHSC	185	50	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
38	FHSC	126	20	U	J	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
39	FHSC	219	100	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
40	FHSC	229	130	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
41	FHSC	175	50	M	A	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Released
42	FHSC	-	-	U	U	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Observed
43	FHSC	-	-	U	U	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Observed
44	FHSC	-	-	U	U	Gill Net	GN28	DPF	17W	503017 7976394	502937 7976406	GN28A	GN28B	2024-08-18	8:48	2024-08-18	13:03	4.25	-	Observed
1	ARCH	732	5440	U	A	Gill Net	GN29	DPF	17W	502922 7976294	502852 7976326	GN29A	GN29B	2024-08-18	8:56	2024-08-18	12:40	3.73	-	Released
2	ARCH	379	513.6	U	U	Gill Net	GN29	DPF	17W	502922 7976294	502852 7976326	GN29A	GN29B	2024-08-18	8:56	2024-08-18	12:40	3.73	-	Mortality
3	ARCH	400	760	U	U	Gill Net	GN29	DPF	17W	502922 7976294	502852 7976326	GN29A	GN29B	2024-08-18	8:56	2024-08-18	12:40	3.73	-	Released
4	ARCH	421	760	U	U	Gill Net	GN29	DPF	17W	502922 7976294	502852 7976326	GN29A	GN29B	2024-08-18	8:56	2024-08-18	12:40	3.73	-	Released
5	ARCH	218	100	U	U	Gill Net	GN29	DPF	17W	502922 7976294	502852 7976326	GN29A	GN29B	2024-08-18	8:56	2024-08-18	12:40	3.73	-	Released
6	FHSC	200	75	F	A	Gill Net	GN29	DPF	17W	502922 7976294	502852 7976326	GN29A	GN29B	2024-08-18	8:56	2024-08-18	12:40	3.73	-	Released
7	FHSC	186	80	M	J	Gill Net	GN29	DPF	17W	502922 7976294	502852 7976326	GN29A	GN29B	2024-08-18	8:56	2024-08-18	12:40	3.73	-	Released
8	FHSC	134	20	F	J	Gill Net	GN29	DPF	17W	502922 7976294	502852 7976326	GN29A	GN29B	2024-08-18	8:56	2024-08-18	12:40	3.73	-	Released
9	FHSC	193	75	U	J	Gill Net	GN29	DPF	17W	502922 7976294	502852 7976326	GN29A	GN29B	2024-08-18	8:56	2024-08-18	12:40	3.73	-	Released
10	FHSC	176	50	F	A	Gill Net	GN29	DPF	17W	502922 7976294	502852 7976326	GN29A	GN29B	2024-08-18	8:56	2024-08-18	12:40	3.73	-	Released
11	FHSC	155	30	F	A	Gill Net	GN29	DPF	17W	502922 7976294	502852 7976326	GN29A	GN29B	2024-08-18	8:56	2024-08-18	12:40	3.73	-	Released
12	FHSC	201	95	F	A	Gill Net	GN29	DPF	17W	502922 7976294	502852 7976326	GN29A	GN29B	2024-08-18	8:56	2024-08-18	12:40	3.73	-	Released
13	FHSC	164	40	F	A	Gill Net	GN29	DPF	17W	502922 7976294	502852 7976326	GN29A	GN29B	2024-08-18	8:56	2024-08-18	12:40	3.73	-	Released
14	FHSC	163	40	F	A	Gill Net	GN29	DPF	17W	502922 7976294	502852 7976326	GN29A	GN29B	2024-08-18	8:56	2024-08-18	12:40	3.73	-	Released
1	ARCH	250	155	U	J	Gill Net	GN30	DPF	17W	503413 7976472	503485 7976531	GN30A	GN30B	2024-08-18	9:15	2024-08-18	12:28	3.22	-	Released
2	ARCH	451	980	U	U	Gill Net	GN30	DPF	17W	503413 7976472	503485 7976531	GN30A	GN30B	2024-08-18	9:15	2024-08-18	12:28	3.22	-	Released
3	FHSC	218	120	F	A	Gill Net	GN30	DPF	17W	503413 7976472	503485 7976531	GN30A	GN30B	2024-08-18	9:15	2024-08-18	12:28	3.22	-	Released
4	FHSC	235	160	F	A	Gill Net	GN30	DPF	17W	503413 7976472	503485 7976531	GN30A	GN30B	2024-08-18	9:15	2024-08-18	12:28	3.22	-	Released
5	FHSC	213	105	M	A	Gill Net	GN30	DPF	17W	503413 7976472	503485 7976531	GN30A	GN30B	2024-08-18	9:15	2024-08-18	12:28	3.22	-	Released
6	FHSC	230	150	F	A	Gill Net	GN30	DPF	17W	503413 7976472	503485 7976531	GN30A	GN30B	2024-08-18	9:15	2024-08-18	12:28	3.22	-	Released
7	FHSC	228	125	F	A	Gill Net	GN30	DPF	17W	503413 7976472	503485 7976531	GN30A	GN30B	2024-08-18	9:15	2024-08-18	12:28	3.22	-	Released
8	FHSC	207	95	M	A	Gill Net	GN30	DPF	17W	503413 7976472	503485 7976531	GN30A	GN30B	2024-08-18	9:15	2024-08-18	12:28	3.22	-	Released
9	FHSC	220	90	F	A	Gill Net	GN30	DPF	17W	503413 7976472	503485 7976531	GN30A	GN30B	2024-08-18	9:15	2024-08-18	12:28	3.22	-	Released
10	FHSC	219	130	F	A	Gill Net	GN30	DPF	17W	503413 7976472	503485 7976531	GN30A	GN30B	2024-08-18	9:15	2024-08-18	12:28	3.22	-	Released
11	FHSC	185	50	M	A	Gill Net	GN30	DPF	17W	503413 7976472	503485 7976531	GN30A	GN30B	2024-08-18	9:15	2024-08-18	12:28	3.22	-	Released
12	FHSC	218	100	F	A	Gill Net	GN30	DPF	17W	503413 7976472	503485 7976531	GN30A	GN30B	2024-08-18	9:15	2024-08-18	12:28	3.22	-	Released
13	FHSC	185	85	F	A	Gill Net	GN30	DPF	17W	503413 7976472	503485 7976531	GN30A	GN30B	2024-08-18	9:15	2024-08-18	12:28	3.22	-	Released
14	FHSC	203	85	F	A	Gill Net	GN30	DPF	17W	503413 7976472	503485 7976531	GN30A	GN30B	2024-08-18	9:15	2024-08-18	12:28	3.22	-	Released
NFC	-	-	-	-	-	Hoop Net	HN01	DPF	17W	0503120 7976466	-	HN01	-	2024-08-04	8:15	2024-08-06	10:57	50.70	1.25	-
1	FHSC	260	160	M	A	Hoop Net	HN02	DPF	17W	0503131 7976471	-	HN02	-	2024-08-04	8:24	2024-08-06	11:02	50.63	1.25	Released
2	FHSC	248	150	F	A	Hoop Net	HN02	DPF	17W	0503131 7976471	-	HN02	-	2024-08-04	8:24	2024-08-06	11:02	50.63	1.25	Released
1	FHSC	159	25	U	J	Hoop Net	HN03	DPF	17W	0503005 7976411	-	HN03	-	2024-08-05	8:05	2024-08-07	8:15	48.17	0.8	Released
NFC	-	-	-	-	-	Hoop Net	HN04	IPF	17W	0504553 7976629	-	HN04	-	2024-08-06	11:17	2024-08-10	10:00	94.72	0.8	-
NFC	-	-	-	-	-	Hoop Net	HN05	IPF	17W	0504549 7976602	-	HN05	-	2024-08-06	11:25	2024-08-10	10:04	94.65	0.8	-
NFC	-	-	-	-	-	Hoop Net	HN06	IPF	17W	0504657 7976703	-	HN06	-	2024-08-07	8:38	2024-08-10	10:10	73.53	0.8	-
NFC	-	-	-	-	-	Hoop Net	HN07	DPF	17W	0504032 7976604	-	HN07	-	2024-08-10	10:23	2024-08-12	11:42	49.32	0.8	-
NFC	-	-	-	-	-	Hoop Net	HN08	IPF	17W	0504549 7976602	-	HN08	-	2024-08-10	10:06	2024-08-12	11:44	49.63	0.8	-
NFC	-	-	-	-	-	Hoop Net	HN09	IPF	17W	0504548 7976631	-	HN09	-	2024-08-10	10:01	2024-08-12	11:50	49.82	0.8	-
1	FHSC	234	126	F	A	Hoop Net	HN10	DPF	17W	0504035 7976603	-	HN10	-	2024-08-12	11:52	2024-08-15	12:53	73.02	1	Released
2	FHSC	252	163	F	A	Hoop Net	HN10	DPF	17W	0504035 7976603	-	HN10	-	2024-08-12	11:52	2024-08-15	12:53	73.02	1	Released
NFC	-	-	-	-	-	Hoop Net	HN11	DPF	17W	0503923 7976555	-	HN11	-	2024-08-12	12:05	2024-08-15	13:02	72.95	1	-
1	FHSC	216	85	M	A	Hoop Net	HN12	DPF	17W	0503308 7976537	-	HN12	-	2024-08-12	12:18	2024-08-15	13:10	72.87	1.4	Released
2	FHSC	195	70	F	A	Hoop Net	HN12	DPF	17W	0503308 7976537	-	HN12	-	2024-08-12	12:18	2024-08-15	13:10	72.87	1.4	Released
1	FHSC	220	80	F	A	Hoop Net	HN13	DPF	17W	0504134 7976560	-	HN13	-	2024-08-15	12:56	2024-08-17	8:26	43.50	0.8	Released
1	ARCH	171	60	U	J	Hoop Net	HN14	DPF	17W	0503925 7976552	-	HN14	-	2024-08-15	13:08	2024-08-17	8:33	43.42	0.9	Released
2	FHSC	191	50	F	A	Hoop Net	HN14	DPF	17W	0503925 7976552	-	HN14	-	2024-08-15	13:08	2024-08-17	8:33	43.42	0.9	Released
3	FHSC	199	80	M	A	Hoop Net	HN14	DPF	17W	0503925 7976552	-	HN14	-	2024-08-15	13:08	2024-08-17	8:33	43.42	0.9	Released
1	FHSC	185	35	M	A	Hoop Net	HN15	DPF	17W	0503346 7976587	-	HN15	-	2024-08-15	13:22	2024-08-17	8:43	43.35	0.9	Released
2	FHSC	175	50	F	A	Hoop Net	HN15	DPF	17W	0503346 7976587	-	HN15	-	2024-08-15	13:22	2024-08-17	8:43	43.35	0.9	Released
1	FHSC	281	205	F	A	Hoop Net	HN16	IPF	17W	0502470 7978676	-	HN16	-	2024-08-17	8:57	2024-08-19	13:57	53.00	1.5	Released
NFC	-	-	-	-	-	Hoop Net	HN17	IPF	17W	0502038 7978345	-	HN17	-	2024-08-17	9:08	2024-08-19	14:02	52.90	1.5	-
1	UNSC	158	50	-	-	Hoop Net	HN18	IPF	17W	0501902 7977854	-	HN18	-	2024-08-17	9:20	2024-08-19	14:14	52.90	1.5	Released
2	ARSC	144	45	F	A	Hoop Net	HN18	IPF	17W	0501902 7977854	-	HN18	-	2024-08-17	9:20	2024-08-19	14:14	52.90	1.5	Released
3	FHSC	202	70	F	A	Hoop Net	HN18	IPF	17W	0501902 7977854	-	HN18	-	2024-08-17	9:20	2024-08-19	14:14	52.90	1.5	Released
4	FHSC	230	180	F	A	Hoop Net	HN18	IPF	17W	0501902 7977854	-	HN18	-	2024-08-17	9:20	2024-08-19	14:14	52.90	1.5	Released
NFC	-	-	-	-	-	Trawl	TR01	DPF	17W	0502431 7976635	0503167 7976722	TR01A	TR01B	2024-08-11	14:56	TR01B	15:26	0.50	34	-
NFC	-	-	-	-	-	Trawl	TR02	DPF	17W	0503035 7976887	0503759 7977011	TR02A	TR02B	2024-08-11	16:17	TR02B	16:47	0.50	53	-

Table 6. 2024 Fishing Catch Data, Milne Inlet

Fish Number[1]	Species Code[2]	Length (mm)	Weight (g)	Sex[3]	Stage[4]	Capture Method	Site	Area[5]	Zone	Start UTM (NAD 83)	End UTM (NAD 83)	Start Waypoint	End Waypoint	Start/Set Date	Start Time	End/Pull Date	End Time	Total Hours	Average Water Depth (m)	Released / Mortality / Euthanized / Observed
NFC	-	-	-	-	-	Trawl	TR03	DPF	17W	0504653 7977080	0505229 7978190	TR03A	TR03B	2024-08-13	8:27	TR03B	8:57	0.50	52	-
1	ASLP	90	<5	U	U	Trawl	TR04	DPF	17W	0501836 7977225	0501922 7977409	TR04A	TR04B	2024-08-13	9:48	TR04B	9:57	0.15	33	Released
2	RBSC	71	<5	U	U	Trawl	TR04	DPF	17W	0501836 7977225	0501922 7977409	TR04A	TR04B	2024-08-13	9:48	TR04B	9:57	0.15	33	Released
1	STSC	150	50	U	U	Trawl	TR05	IPF	17W	0501775 7976889	0501787 7977096	TR05A	TR05B	2024-08-13	11:08	TR05B	11:18	0.17	33	Released
2	RBSC	105	20	U	U	Trawl	TR05	IPF	17W	0501775 7976889	0501787 7977096	TR05A	TR05B	2024-08-13	11:08	TR05B	11:18	0.17	33	Released
1	STSC	153	50	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Released
2	STSC	162	50	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Released
3	STSC	156	40	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Released
4	RBSC	135	10	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Released
5	STSC	118	17.312	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Mortality
6	RBSC	90	4.858	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Mortality
7	RBSC	75	2.878	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Mortality
8	RBSC	81	3.849	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Mortality
9	SPSC	65	2.768	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Mortality
10	RBSC	135	18.017	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Mortality
11	STSC	115	17.735	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Mortality
12	RBSC	128	14.894	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Mortality
13	UNCD	65	1.97	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Mortality
14	UNCD	67	2.02	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Mortality
15	RBSC	115	11.773	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Mortality
16	RBSC	50	0.197	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Mortality
17	AALG	61	1.713	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Mortality
18	AALG	54	1.229	U	U	Trawl	TR06	IPF	17W	0501842 7977014	0502342 7977857	TR06A	TR06B	2024-08-13	12:02	TR06B	12:32	0.50	45	Mortality
1	SPSC	74	<5	U	U	Trawl	TR07	DPF	17W	0504536 7976982	0504950 7977613	TR07A	TR07B	2024-08-19	15:00	TR07B	15:30	0.50	52	Released

[1] NFC = no fish caught

[2] AALG = Arctic Alligatorfish; ARCH = Arctic Char; ARSC = Arctic Sculpin; ASLP = Atlantic Spiny Lumpsucker; FHSC = Fourhorn Sculpin; GRCD = Pacific Cod (previously Greenland Cod); RBSC = Ribbed Sculpin; SHSC = Shorthorn Sculpin; STSC = Arctic Staghorn Sculpin; UNCD = Unknown Cod

[3] M = Male; F = Female; U = Unknown

[4] A = Adult; J = Juvenile; F = Fry; U = Uknown

[5] DPF = Direct Project Footprint; IPF = Indirect Project Footprint; REF-K = Chapter 7.0 fish health reference exploration in Koluktoo Bay

APPENDIX 6C

Photographs



Photo 1: Angling – jigging effort ANJ23 below the cliffs on the north-east side in the IPF (Indirect Project Footprint).



Photo 2: Gill net effort GN10 deployed between the Ore and Freight Docks in the DPF (Direct Project Footprint).



Photo 3: Hoop net effort HN04 deployed adjacent to the hunter's cabin off East Beach in the IPF.



Photo 4: Trawling effort TR01 being deployed north of the Ore Dock in the DPF.



Photo 5: Fourhorn Sculpin (*Myoxocephalus quadricornis*) captured angling-jigging effort ANJ05 at the reference area.



Photo 6: Arctic Char (*Salvelinus alpinus*) captured angling-jigging effort ANJ31 at the reference area.



Photo 7: Shorthorn Sculpin male (*Myoxocephalus scorpius*) captured angling-jigging effort ANJ23 below cliffs on the north-east side in the IPF.



Photo 8: Arctic Staghorn Sculpin (*Gymnocanthus tricuspis*) captured in trawling effort TR06 on the northwest side of the inlet in the IPF.



Photo 9: Greenland Cod (*Gadus ogac*) captured in angling-jigging effort ANJ02 in the reference area.



Photo 10: Arctic Sculpin (*Myoxocephalus scorpioides*) captured angling-jigging effort GN30 in the fish health reference area.

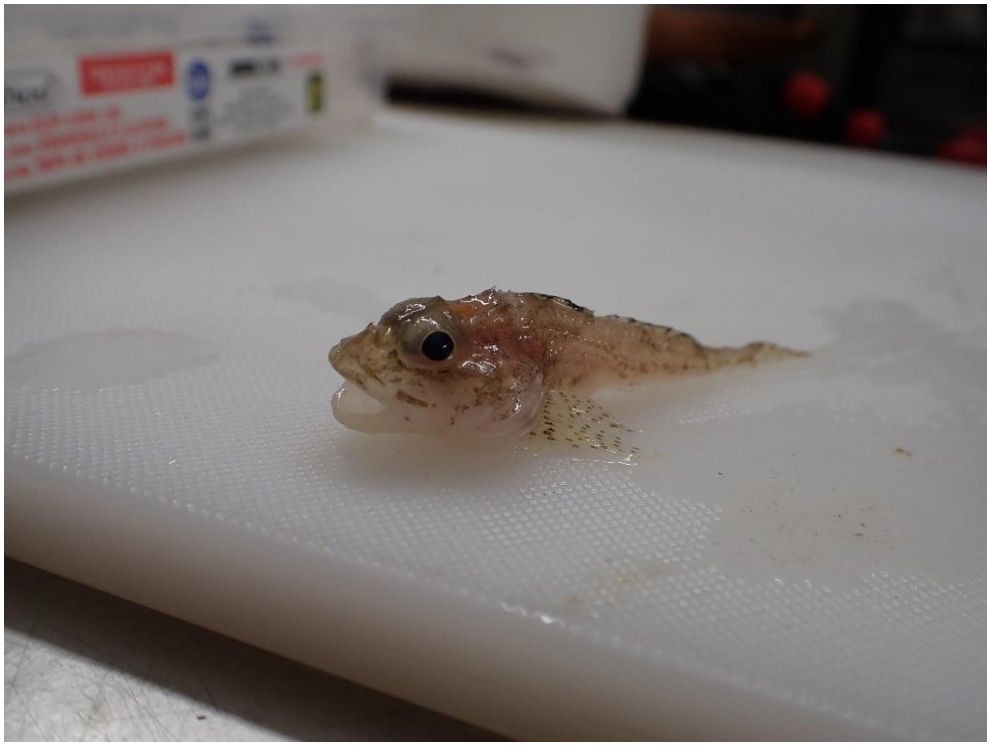


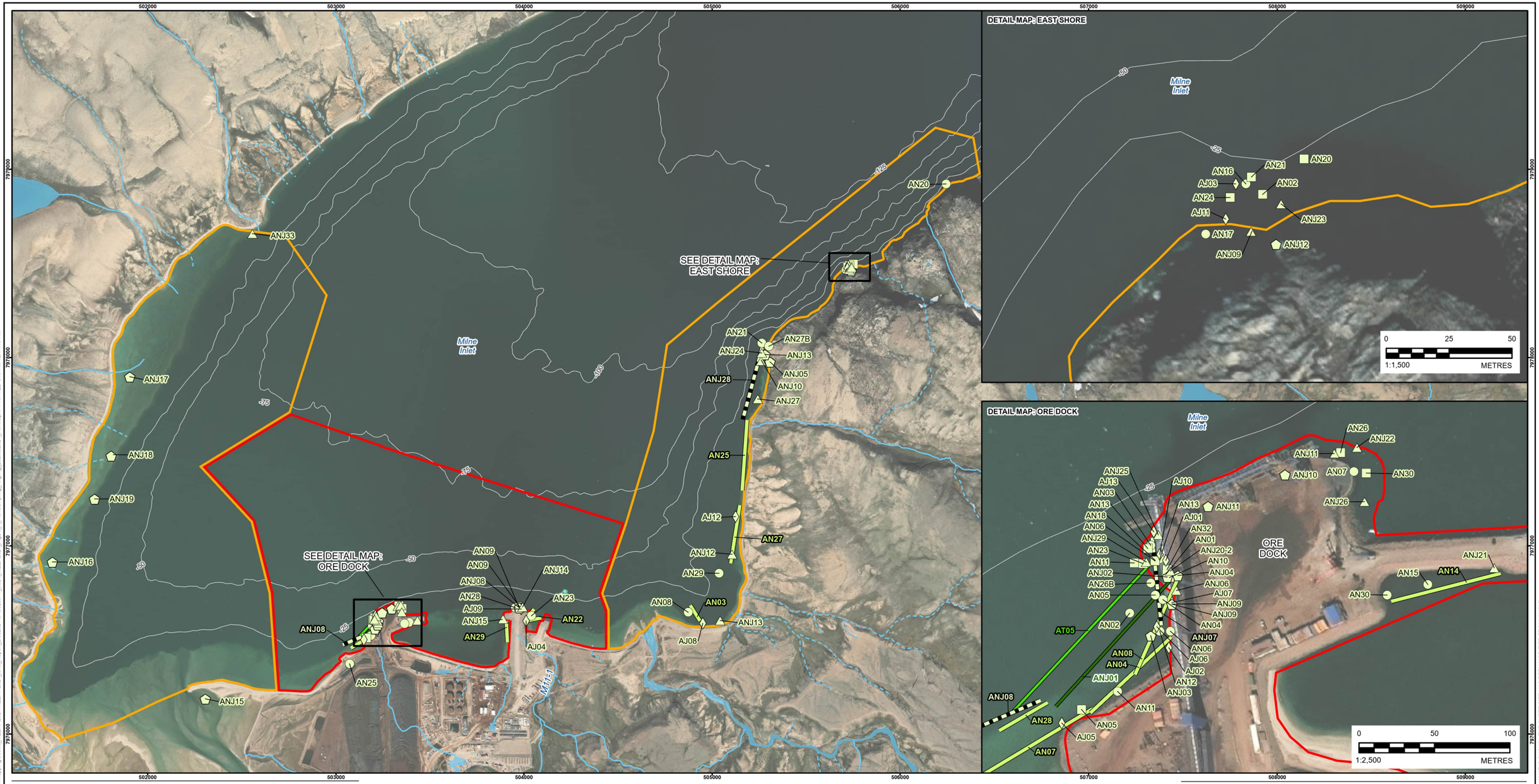
Photo 11: Spatulate Sculpin *(Icelus spatulata*) captured in trawling effort TR06 on the northwest side of the inlet in the IPF.



Photo 12: Atlantic Spiny Lumpsucker (*Eumicrotremus spinosus*) captured in trawling effort TR04 in the DPF.

APPENDIX 6D

Supplementary Figures and Tables



LEGEND

- 2024 ANGLING (JIGGING) SAMPLING LOCATION
- 2023 ANGLING (JIGGING) SAMPLING LOCATION
- 2022 ANGLING (JIGGING) SAMPLING LOCATION
- 2021 ANGLING (JIGGING) SAMPLING LOCATION
- 2020 ANGLING (JIGGING) SAMPLING LOCATION
- 2024 ANGLING (JIGGING) SAMPLING LOCATION
- 2023 ANGLING (JIGGING) SAMPLING LOCATION
- 2022 ANGLING (JIGGING) SAMPLING LOCATION
- 2021 ANGLING (JIGGING) SAMPLING LOCATION
- BATHYMETRIC CONTOUR (25 M INTERVAL)
- INTERMITTENT WATERCOURSE
- WATERCOURSE
- INDIRECT PROJECT FOOT PRINT (IPF)
- DIRECT PROJECT FOOT PRINT (DPF)
- WATERBODY

REFERENCE(S)

BATHYMETRY CREATED BY GOLDER FROM MULTIPLE DATA SOURCES. FREIGHT DOCK DATA PROVIDED BY HATCH, MARCH 4, 2020. ADDITIONAL MILNE PORT INFRASTRUCTURE DATA OBTAINED FROM CLIENT, MAY 2, 2020 AND MAY 28, 2018. HYDROGRAPHY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. IMAGERY COPYRIGHT © 20240729, 20240718, 20230728 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID AND EARTHSTAR GEOGRAPHICS. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTION: UTM ZONE 17 DATUM: NAD 83

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

CONSULTANT
wsp

YYYY-MM-DD	2025-04-08
DESIGNED	BG
PREPARED	AA
REVIEWED	NO
APPROVED	AL

TITLE
ANGLING (JIGGING) SAMPLE LOCATIONS IN MILNE PORT (2020 – 2024)

PROJECT NO.	CONTROL	REV.	FIGURE
CA0026371.6821	86000.04	0	D6-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

0

PATH: I:\CLIENTS\BAFFINLAND_IRON_MINES\CA0026317_6821_NorthernPrograms\2024\Mapping\86000_MEEMP\2024\MEEMP2024_Ch6_Report_Dir\2024\CA0026317_6821_MEEP2024_Feb26_1_FishSampling_Angling_2020to2024_Rev0.aprx PRINTED ON: AT 12:17:10 PM

501000 502000 503000 504000 505000 506000

7978000 7977000 7976000

Milne Inlet

ORE DOCK

FREIGHT DOCK

Phillips Creek

Unnamed Watercourse #2

Mit-1

-125 -100 -75 -50 -25

GN26 GN27 GN26 GN11 GN09 GN10 GN03

GN06 GN12 GN01 GN28 GN03 GN21 GN29 GN03 GN04 GN02 GN01 GN23 GN18 GN22 GN05 GN21 GN09 GN02 GN13 GN02 GN22 GN07 GN08 GN18 GN13 GN01 GN04 GN21 GN11 GN22 GN01 GN12 GN04 GN11 GN07 GN02 GN17

GN24 GN30 GN23B GN09 GN09 GN21 GN09 GN16 GN08 GN11 GN10 GN13 GN24

GN07 GN10 GN20 GN08 GN19 GN15 GN25 GN18 GN05 GN05 GN06 GN17 GN06 GN10 GN18 GN12

GN11 GN10 GN22 GN20 GN19 GN14 GN13 GN12 GN15 GN20

GN15 GN19 GN07 GN20 GN21 GN14 GN16 GN16 GN24 GN19 GN20 GN05 GN08 GN03 GN17 GN06 GN04 GN16 GN23A GN23 GN19 GN07

LEGEND

- 2024 GILLNET DEPLOYMENT LOCATION
- 2023 GILLNET DEPLOYMENT LOCATION
- 2022 GILLNET DEPLOYMENT LOCATION
- 2021 GILLNET DEPLOYMENT LOCATION
- 2020 GILLNET DEPLOYMENT LOCATION
- BATHYMETRIC CONTOUR (25 m INTERVAL)
- INTERMITTENT WATERCOURSE
- WATERCOURSE
- INDIRECT PROJECT FOOT PRINT (IPF)
- DIRECT PROJECT FOOT PRINT (DPF)
- WATERBODY

0 250 500

1:15,000 METRES

REFERENCE(S)

BATHYMETRY CREATED BY GOLDER FROM MULTIPLE DATA SOURCES. FREIGHT DOCK DATA PROVIDED BY HATCH, MARCH 4, 2020. ADDITIONAL MILNE PORT INFRASTRUCTURE DATA OBTAINED FROM CLIENT, MAY 2, 2020 AND MAY 28, 2018. HYDROGRAPHY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. IMAGERY COPYRIGHT © 20240718 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTION: UTM ZONE 17 DATUM: NAD 83

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

CONSULTANT
wsp

YYYY-MM-DD	2025-04-08
DESIGNED	BG
PREPARED	AA
REVIEWED	NO
APPROVED	AL

TITLE
GILL NET SAMPLE LOCATIONS IN MILNE PORT (2020 – 2024)

PROJECT NO.	CONTROL	REV.	FIGURE
CA0026317.6821	86000-04	0	D6-2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: A1/SI B

25mm 0

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501000 502000 503000 504000 505000 506000

7978000 7977000 7976000

HN16 HN17 HN18 HN14 HN13 HN11 HN08

-125 -100 -75 -50 -25

Milne Inlet

ORE DOCK

HN01 HN02 HN03 HN04 HN05 HN06 HN07 HN08 HN09 HN10 HN11 HN12 HN13 HN14 HN15

FREIGHT DOCK

Phillips Creek

Unnamed Watercourse #2

MH-1

LEGEND

- 2024 HOOP NET DEPLOYMENT LOCATION
- 2023 HOOP NET DEPLOYMENT LOCATION
- 2022 HOOP NET SAMPLING LOCATION
- 2021 HOOP NET SAMPLING LOCATION
- 2020 HOOP NET SAMPLING LOCATION
- BATHYMETRIC CONTOUR (25 m INTERVAL)
- INTERMITTENT WATERCOURSE
- WATERCOURSE
- INDIRECT PROJECT FOOT PRINT (IPF)
- DIRECT PROJECT FOOT PRINT (DPF)
- WATERBODY

0 250 500

1:15,000 METRES

REFERENCE(S)

BATHYMETRY CREATED BY GOLDER FROM MULTIPLE DATA SOURCES. FREIGHT DOCK DATA PROVIDED BY HATCH, MARCH 4, 2020. ADDITIONAL MILNE PORT INFRASTRUCTURE DATA OBTAINED FROM CLIENT, MAY 2, 2020 AND MAY 28, 2018. HYDROGRAPHY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. IMAGERY COPYRIGHT © 20240718 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTION: UTM ZONE 17 DATUM: NAD 83

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BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

CONSULTANT
wsp

YYYY-MM-DD	2025-04-08
DESIGNED	BG
PREPARED	AA
REVIEWED	NO
APPROVED	AL

TITLE
HOOP NET SAMPLE LOCATIONS IN MILNE PORT (2020 – 2024)

PROJECT NO.	CONTROL	REV.	FIGURE
CA0026317.6821	86000-04	0	D6-3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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PATH: I:\CLIENTS\BAFFINLAND_IRON_MINES\CA0026317_6821_NorthernPrograms\2024\Mapping\86000_MEEMP2024\MEEMP2024_Ch6_Report_Dec2024\CA0026317_6821_MEEP2024_FigD6_3_FishSampling_HoopNet_2020to2024_Rev0.aprx PRINTED ON: AT 12:13:14 PM



LEGEND

- 2024 TRAWLING SAMPLE LOCATION
- 2023 TRAWLING SAMPLE LOCATION
- 2022 TRAWLING SAMPLING LOCATION
- 2021 TRAWLING SAMPLE LOCATION
- 2020 TRAWLING SAMPLE LOCATION
- BATHYMETRIC CONTOUR (25 M INTERVAL)
- INTERMITTENT WATERCOURSE
- WATERCOURSE
- INDIRECT PROJECT FOOT PRINT (IPF)
- DIRECT PROJECT FOOT PRINT (DPF)
- WATERBODY

0 250 500
1:12,500 METRES

REFERENCE(S)

BATHYMETRY CREATED BY GOLDER FROM MULTIPLE DATA SOURCES. FREIGHT DOCK DATA PROVIDED BY HATCH, MARCH 4, 2020. ADDITIONAL MILNE PORT INFRASTRUCTURE DATA OBTAINED FROM CLIENT, MAY 2, 2020 AND MAY 28, 2018. HYDROGRAPHY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. IMAGERY COPYRIGHT © 20240718 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTION: UTM ZONE 17 DATUM: NAD 83

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

CONSULTANT
wsp

YYYY-MM-DD	2025-04-08
DESIGNED	BG
PREPARED	AA
REVIEWED	NO
APPROVED	AL

TITLE
TRAWLING SAMPLE LOCATIONS IN MILNE PORT (2020 – 2024)

PROJECT NO.	CONTROL	REV.	FIGURE
CA0026317.6821	86000.04	0	D6-4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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Table 1: Length (mm) Summary Statistics from Catch Data by Taxon, Milne Port (2024)

Fishing Gear	Direct Project Footprint					Indirect Project Footprint				
	No. Fish Caught	Mean	SD	Min	Max	No. Fish Caught	Mean	SD	Min	Max
Arctic Alligatorfish	-	-	-	-	-	2	57.5	4.95	54	61
Trawling	-	-	-	-	-	2	57.5	4.95	54	61
Arctic Char	47	401.18	131.38	130	732	80	487	295.89	135	2630
Gill Net	46	406.41	128.08	130	732	80	487	295.89	135	2630
Hoop Net	1	171.00	-	171	171	-	-	-	-	-
Arctic Sculpin	-	-	-	-	-	2	197	74.95	144	250
Angling - Jigging	-	-	-	-	-	1	250	-	250	250
Hoop Net	-	-	-	-	-	1	144	-	144	144
Arctic Staghorn Sculpin	-	-	-	-	-	11	152.82	27.77	115	208
Angling - Jigging	-	-	-	-	-	5	165.4	32.30	121	208
Trawling	-	-	-	-	-	6	142.33	20.42	115	162
Atlantic Spiny Lumpsucker*	1	90.00	-	90	90	-	-	-	-	-
Trawling	1	90.00	-	90	90	-	-	-	-	-
Fourhorn Sculpin	271	214.82	39.84	111	314	108	252.59	28.84	195	309
Angling - Jigging	73	233.24	31.68	153	314	34	258.16	26.33	206	309
Gill Net	186	207.60	35.77	111	288	71	248.88	28.28	195	308
Hoop Net	12	211.17	32.42	159	260	3	237.67	40.05	202	281
Pacific Cod	21	553.75	67.79	411	670	2	564	106.07	489	639
Angling - Jigging	21	553.75	67.79	411	670	1	489	-	489	489
Gill Net	-	-	-	-	-	1	639	-	639	639
Ribbed Sculpin	1	71.00	-	71	71	9	97.38	28.76	50	135
Trawling	1	71.00	-	71	71	9	97.38	28.76	50	135
Shorthorn Sculpin	26	282.36	57.50	200	462	45	246.69	42.90	181	360
Angling - Jigging	26	282.36	557.50	200	462	35	245.10	45.62	181	360
Gill Net	-	-	-	-	-	10	252.149	19.39	225	272
Spatulate Sculpin	1	74.00	-	74	74	1	65	-	65	65
Trawling	1	74.00	-	74	74	1	65	-	65	65
Unidentified Cod	-	-	-	-	-	2	66	1.41	65	67
Trawling	-	-	-	-	-	2	66	1.41	65	67
Unidentified Sculpin	-	-	-	-	-	2	190.5	45.96	158	223
Angling - Jigging	-	-	-	-	-	1	223	-	223	223
Hoop Net	-	-	-	-	-	1	158	-	158	158

* Single Atlantic Spiny Lumpsucker specimen length in 2024 was estimated from photos due to specimen escape before metrics could be collected.

Table 2: Weight (g) Summary Statistics from Catch Data by Taxon, Milne Port (2024)

Fishing Gear	Direct Project Footprint					Indirect Project Footprint				
	No. Fish Caught	Mean	SD	Min	Max	No. Fish Caught	Mean	SD	Min	Max
Arctic Alligatorfish	-	-	-	-	-	2	1.47	0.34	1.229	1.713
Trawling	-	-	-	-	-	2	1.47	0.34	1.229	1.713
Arctic Char	47	1391.43	1339.68	20	5440	80	1694.61	1596.77	20	9063
Gill Net	46	1424.72	1339.46	20	5440	80	1694.61	1596.77	20	9063
Hoop Net	1	60.00	-	60	60	-	-	-	-	-
Arctic Sculpin	-	-	-	-	-	2	122.50	109.60	45	200
Angling - Jigging	-	-	-	-	-	1	200.00	-	200	200
Hoop Net	-	-	-	-	-	1	45.00	-	45	45
Arctic Staghorn Sculpin	-	-	-	-	-	11	54.14	40.72	17.312	130
Angling - Jigging	-	-	-	-	-	5	71.62	42.42	25	130
Trawling	-	-	-	-	-	6	31.26	16.38	17.312	50
Atlantic Spiny Lumpsucker*	1	-	-	-	-	-	-	-	-	-
Trawling	1	-	-	-	-	-	-	-	-	-
Fourhorn Sculpin	270	124.66	60.57	10	365.5	108	190.35	84.24	50	378.7
Angling - Jigging	72	135.09	57.78	40	365.5	34	194.50	77.58	80	378.7
Gill Net	186	103.17	52.40	10	200	71	179.72	83.83	50	355
Hoop Net	12	94.40	51.97	25	163	3	151.67	71.82	70	205
Pacific Cod	21	2056.10	817.36	640	3568	2	2035.00	954.59	1360	2710
Angling - Jigging	21	2056.10	817.36	640	3568	1	1360.00	-	1360	1360
Gill Net	-	-	-	-	-	1	2710.00	-	2710	2710
Ribbed Sculpin	1	<5.00	-	<5	<5	9	9.61	7.08	0.197	20
Trawling	1	<5.00	-	<5	<5	9	9.61	7.08	0.197	20
Shorthorn Sculpin	26	347.75	250.41	110	1170	45	230.32	120.05	65	590
Angling - Jigging	26	347.75	250.41	110	1170	35	229.44	128.63	65	590
Gill Net	-	-	-	-	-	10	219.29	40.25	150	260
Spatulate Sculpin	1	<5.00	-	<5	<5	1	2.77	-	2.768	2.768
Trawling	1	<5.00	-	<5	<5	1	2.77	-	2.768	2.768
Unidentified Cod	-	-	-	-	-	2	2.00	0.04	1.97	2.02
Trawling	-	-	-	-	-	2	2.00	0.04	1.97	2.02
Unidentified Sculpin	-	-	-	-	-	2	112.65	88.60	50	175.3
Angling - Jigging	-	-	-	-	-	1	175.30	-	175.3	175.3
Hoop Net	-	-	-	-	-	1	50.00	-	50	50

Note: Weights with '<5' were weighed in the field with a spring scale that does not register below 5g. Specimens with listed weights less than 5g were weighted in the lab.

* Single Atlantic Spiny Lumpsucker specimen weight could not be collected in 2024 due to specimen escape before metrics could be collected.

Table 3: Fish Catch Data for 2010 - 2024 MEEMP Fish Sampling Program (Combined Fishing Methods) in Milne Port

Family / Common Name	Taxonomic ID	Number of Fish Captured												
		2010	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Agonidae														
Arctic Alligatorfish	*Aspidophoroides olrikii*	0	0	0	0	0	0	0	0	0	2	0	4	2
Atlantic Poacher	*Leptagonus decagonus*	0	0	0	0	0	0	0	0	0	1	0	0	0
Ammodytidae														
Sandlance	*Ammodytes* spp.[1]	0	0	0	0	0	1	1	1	6	0	0	0	0
Cottidae														
Atlantic Hookear Sculpin	*Artediellus atlanticus*	0	0	3	1	0	0	0	0	0	0	0	0	0
Arctic Staghorn Sculpin	*Gymnocanthus tricuspis*	3	2	0	2	0	0	0	0	11	5	8	15	11
Spatulate Sculpin	*Icelus spatula*	0	0	0	0	0	0	0	0	0	0	5	2	2
Longhorn Sculpin	*Myoxocephalus octodecemspinosus*	0	0	4	2	2	0	0	0	0	0	0	0	0
Fourhorn Sculpin	*Myoxocephalus quadricornis*	7	3	39	13	18	28	147	106	388	295	306	315	379
Arctic Sculpin	*Myoxocephalus scorpioides*	0	0	4	1	0	6	3	0	13	47	5	2	2
Shorthorn Sculpin	*Myoxocephalus scorpius*	50	4	10	8	18	21	78	66	74	37	31	16	71
Ribbed Sculpin	*Triglops pingelii*	0	0	0	0	0	0	0	0	0	47	14	9	10
Unidentified Sculpin	Cottidae indet.	0	0	0	12	0	0	3	0	84[2]	3	0	0	3
Cyclopteridae														
Common Lumpfish	*Cyclopterus lumpus*	0	0	1	0	0	0	0	0	0	0	0	0	0
Atlantic Spiny Lumpsucker	*Eumicrotremus spinosus*	0	0	0	0	0	0	0	0	0	0	0	1	1
Gadidae														
Arctic Cod	*Arctogadus glacialis*	0	0	0	0	0	0	0	0	70	0	0	0	0
Polar Cod	*Boreogadus saida*	0	0	0	0	0	0	1[3]	0	0	0	7	1	0
Pacific Cod	*Gadus macrocephalus*[4]	4	0	1	0	0	0	0	0	57	48	8	6	23
Unidentified Cod	*Gadus* sp.	0	0	0	0	0	0	0	0	0	0	0	1[5]	0
Unidentified Cod	Gadidae indet.	0	0	0	0	0	0	0	0	0	11	0	0	2[5]
Gasterosteidae														
Ninespine Stickleback	*Pungitius pungitius*	0	0	0	0	0	0	0	1	0	0	0	0	0
Liparidae														
Unidentified Snailfish[6]	Liparidae indet.	0	0	0	0	0	0	0	0	0	1	0	0	0
Salmonidae														

Family / Common Name	Taxonomic ID	Number of Fish Captured												
		2010	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Arctic Char	*Salvelinus alpinus*	11	6	3	67	157	23	169	105	148	105	98	49	127
Stichaeidae														
Fourline Snakeblenny	*Eumesogrammus parecisus*	0	0	1	2	2	0	0	0	1	0	0	0	0
Zoarcidae														
Halfbarred Pout	*Gymnelus hemifasciatus*	0	0	0	0	0	0	0	0	0	0	1	0	0
Fishdoctor	*Gymnelis viridis*	0	1	0	3	0	0	0	0	0	0	0	0	0
Saddled Eelpout	*Lycodes mucosus*	0	0	0	0	0	0	0	0	0	1	1	1	0
Indeterminate														
Unidentified Species	-	0	0	0	0	0	0	1	0	0	0	0	0	0
Total Taxonomic Richness[7]		**5**	**5**	**9**	**9**	**5**	**5**	**6**	**5**	**9**	**11**	**11**	**12**	**10**
Total Fish Captures		**75**	**16**	**67**	**111**	**197**	**79**	**403**	**279**	**852**	**603**	**484**	**422**	**633**

Note: Table does not include Fish Health Reference Area fish sampling catch numbers. See Appendix 6B for catch information.

[1] Both *Ammodytes hexapterus* and *A. dubius* occur in the Project Area but are difficult to resolve in the field. *Ammodytes* spp. represents observations for both species.

[2] For the Unidentified Sculpin captured in 2021, taxonomic lab results (Biologica) determined the majority of the fish to be in the genus *Myoxocephalus*. The species identification was unknown; however, results suggest it was potentially *M. aenaeus*. Nine of the unidentified sculpins were only able to be taxonomically identified to genus *Triglops*; results suggest it was potentially *T. pingelii.*

[3] Fish species *Arctogadus glacialis* and *Boreogadus saida* both use the common name Polar Cod. The 2018 report (Golder 2019) indicated an Arctic Cod was captured, referred to as *A. glacialis*. Review of the catch record and field photographs indicate this was actually *B. saida* and was corrected in the 2020 MEEMP report (Golder 2021).

[4] Recent taxonomic changes to the genus *Gadus* have combined species *G. ogac* (Greenland Cod) and *G. macrocephalus* (Pacific or Alaska Cod) under the umbrella term *G. macrocephalus*. A universal edit has been made to change Greenland cod (*G. ogac*) to Pacific Cod (*G. macrocephalus*).

[5] For the Unidentified Cod captured in 2023, taxonomic lab results (Biologica) were determined to be in the genus *Gadus*. In 2024, taxonomic lab results were determined to be Family Gadidae.

[6] Taxonomic lab results (Biologica) identified the 2021 Unidentified Snailfish from Genus *Liparis*. The species was determined be either *L. gibbus* or *L. tunicatus*, however identifying features were not clear.

[7] Taxa richness is based on known taxa, therefore ‘unidentified’ taxa were removed from the taxa richness calculation. This change was made in 2023, corrected for previous years, and subsequently carried forward.

Table 4: Total Fish Captured (n) for Grouped Taxon by Fishing Method, Year, and Fishing Area (2020 – 2024)

Fishing Method	Year	Fishing Area	Arctic Char	Fourhorn Sculpin	Pacific Cod	Shorthorn Sculpin	Other Sculpin	Other Fish	Area Total	Annual Total
Angling – Jigging	2020	DPF	1	145	38	36	4	0	224	250
		IPF	1	0	16	9	0	0	26	
	2021	DPF	5	135	33	11	26	0	210	260
		IPF	0	15	14	17	4	0	50	
	2022	DPF	0	132	1	4	0	0	137	157
		IPF	0	0	4	16	0	0	20	
	2023	DPF	1	34	5	5	0	0	45	69
		IPF	0	16	1	7	0	0	24	
	2024	DPF	0	73	0	0	21	26	120	197
		IPF	0	34	0	7	1	35	77	
Gill Net	2020	DPF	80	113	0	17	11	1	222	306
		IPF	64	15	0	5	0	0	84	
	2021	DPF	59	87	0	4	4	0	154	242
		IPF	41	39	1	5	2	0	88	
	2022	DPF	35	68	0	0	0	0	103	211
		IPF	62	42	0	3	1	0	108	
	2023	DPF	33	180	0	1	0	0	214	273
		IPF	15	43	0	0	1	0	59	
	2024	DPF	46	186	0	1	0	0	233	395
		IPF	80	71	0	0	1	10	162	
Hoop Net	2020	DPF	0	70	1	3	3	0	77	84
		IPF	1	3	2	0	1	0	7	
	2021	DPF	0	12	0	0	0	0	12	12
		IPF	0	0	0	0	0	0	0	
	2022	DPF	0	53	0	1	1	0	55	55
		IPF	0	0	0	0	0	0	0	
	2023	DPF	0	35	0	1	0	0	36	40
		IPF	0	4	0	0	0	0	4	
	2024	DPF	1	12	0	0	0	0	13	18
		IPF	0	3	0	2	0	0	5	
Trawling	2020	IPF	0	0	0	0	19	70	89	89
	2021	DPF	0	0	0	0	52	12	64	72
		IPF	0	0	0	0	4	4	8	
	2022	DPF	0	0	0	0	16	6	22	34
		IPF	0	0	0	0	11	1	12	
	2023	DPF	0	0	0	0	12	1	13	33
		IPF	0	0	0	0	14	6	20	
	2024	DPF	0	0	1	2	0	0	3	23
		IPF	0	0	4	16	0	0	20	

Note: DPF = Direct Project Footprint; IPF = Indirect Project Footprint. Table does not include Fish Health Reference Area fish sampling catch numbers. See Appendix 6B for catch information. Additionally, table does not contain discontinued fishing methods, which can be found in historical reports (e.g., WSP 2023).

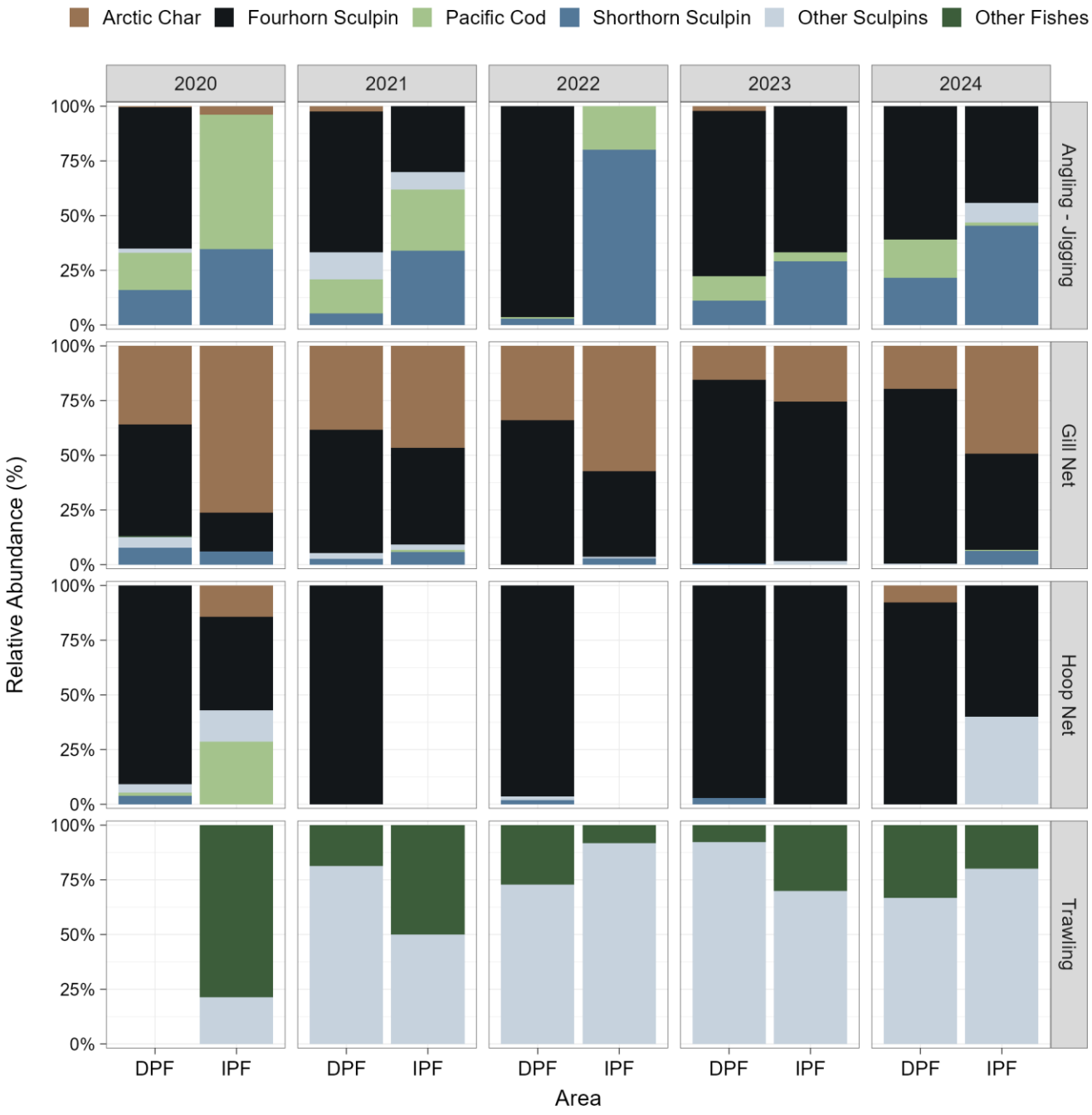


Figure 5: Relative Abundances of Grouped Taxa per Fishing Method and Fishing (2020-2024)

Note: DPF = Direct Project Footprint; IPF = Indirect Project Footprint. Taxa with abundances <5% were grouped as follows for all years in which they were present: other sculpins (Arctic Sculpin, Arctic Staghorn Sculpin, Ribbed Sculpin, Spatulate Sculpin, and unidentified sculpins) and other fishes (Arctic Alligatorfish, Arctic Cod, Atlantic Poacher, Atlantic Spiny Lumpsucker, Fourline Snakeblenny, Halfbarred Pout, Northern Sand Lance, Polar Cod, Saddled Eelpout, unidentified cods, and unidentified snailfish).

Table 5: Relative Abundances of Grouped Taxa by Fishing Method and Year (2020-2024)

Method[1]	Year	Arctic Char	Fourhorn Sculpin	Pacific Cod	Shorthorn Sculpin	Other Sculpin	Other Fish
Angling - Jigging	2020	1%	58%	22%	18%	2%	0%
	2021	2%	58%	18%	11%	12%	0%
	2022	0%	84%	3%	13%	0%	0%
	2023	1%	72%	9%	17%	0%	0%
	2024	0%	54%	11%	31%	4%	0%
Gill Net	2020	47%	42%	0%	7%	4%	0%
	2021	41%	52%	0%	4%	2%	0%
	2022	46%	52%	0%	1%	0%	0%
	2023	18%	82%	0%	0%	0%	0%
	2024	32%	65%	0%	3%	0%	0%
Hoop Net	2020	1%	87%	4%	4%	5%	0%
	2021	0%	100%	0%	0%	0%	0%
	2022	0%	96%	0%	2%	2%	0%
	2023	0%	98%	0%	2%	0%	0%
	2024	6%	83%	0%	0%	11%	0%
Trawling	2020	0%	0%	0%	0%	21%	79%
	2021	0%	0%	0%	0%	78%	22%
	2022	0%	0%	0%	0%	79%	21%
	2023	0%	0%	0%	0%	79%	21%
	2024	0%	0%	0%	0%	78%	22%

Note: DPF = Direct Project Footprint; IPF = Indirect Project Footprint. Taxa with abundances <5% were grouped as follows for all years in which they were present: other sculpins (Arctic Sculpin, Arctic Staghorn Sculpin, Ribbed Sculpin, Spatulate Sculpin, and unidentified sculpins) and other fishes (Arctic Alligatorfish, Arctic Cod, Atlantic Poacher, Atlantic Spiny Lumpsucker, Fourline Snakeblenny, Halfbarred Pout, Northern Sand Lance, Polar Cod, Saddled Eelpout, unidentified cods, and unidentified snailfish).

Table 6: Taxa Richness by Fishing Method (2020-2024)

Fishing Method	Number of Taxa				
	2020	2021	2022	2023	2024
Angling - Jigging	5	5	3	4	5
Gill Net	6	5	4	4	4
Hoop Net	5	1	3	2	3
Trawling	2	7	4	6	5
Total	9	11	11	12	10

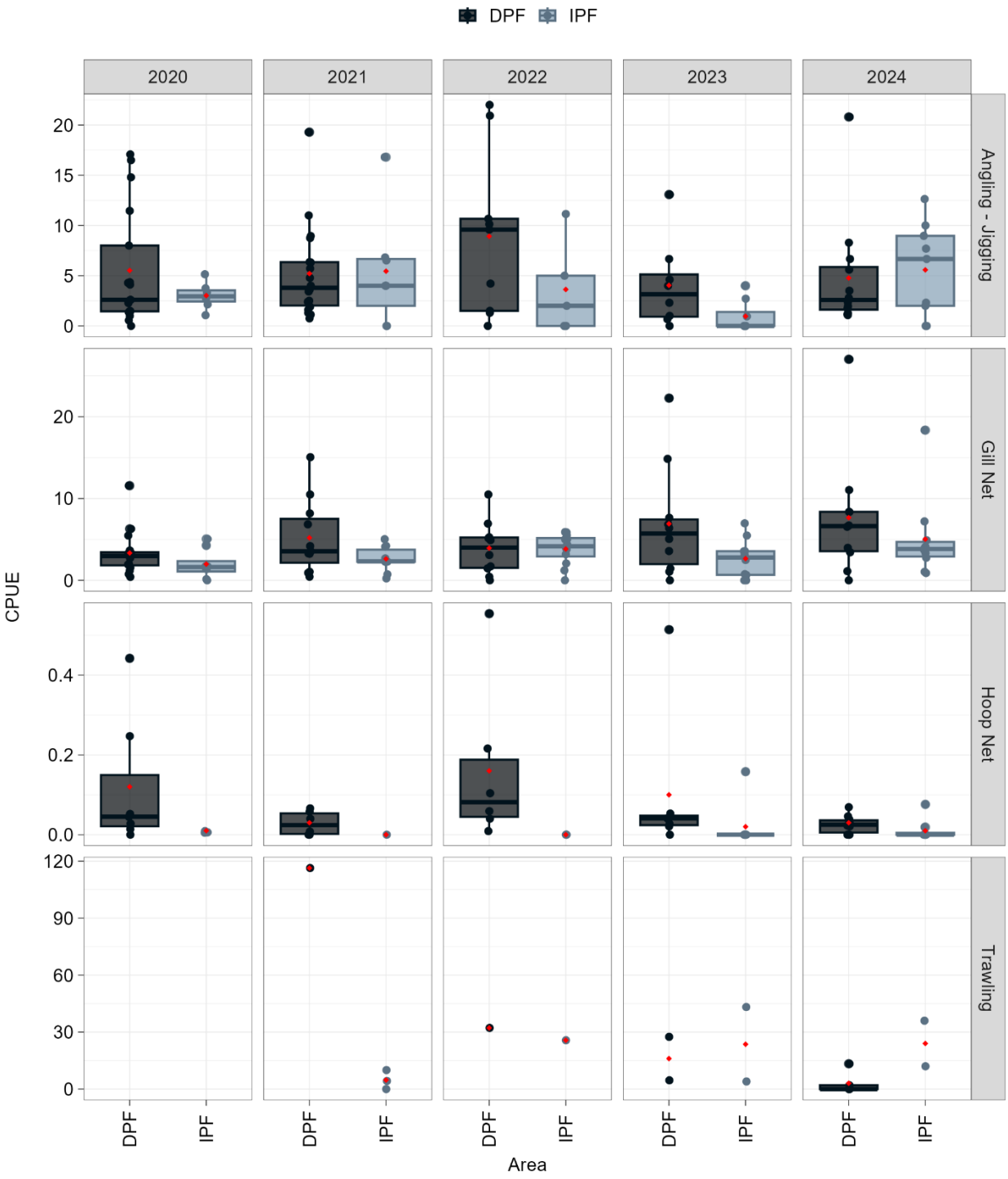


Figure 6: Average Catch-Per-Unit-Effort (CPUE) of Grouped Taxa per Fishing Method by Year (2020-2023) and Fishing Area

Note: Note: DPF = Direct Project Footprint; IPF = Indirect Project Footprint. Red diamonds indicate mean values. Trawling in 2020 was excluded from the figure due to high CPUE values that skewed the figure. Additionally, the figure does not contain discontinued fishing methods, which can be found in historical reports (e.g., WSP 2023).

Table 7: Catch Per Unit Effort Summary Statistics by Fishing Area, Fishing Method, and Year, All Fish Species Combined

Method (CPUE Unit)	Year	Area	Sampling Events	CPUE Summary Statistic				
				Mean	Median	SD	Min	Max
Angling – Jigging (fish*hr^{-1}*rod^{-1})	2020	DPF	17	5.52	2.60	5.81	0.00	17.07
		IPF	7	3.02	2.94	1.28	1.07	5.14
	2021	DPF	19	6.60	4.00	7.52	0.75	31.58
		IPF	7	5.45	4.00	5.71	0.00	16.80
	2022	DPF	9	8.92	9.58	8.18	0.00	22.00
		IPF	5	3.63	2.00	4.67	0.00	11.14
	2023	DPF	8	4.04	3.15	4.29	0.00	13.08
		IPF	8	0.96	0.00	1.55	0.00	4.00
	2024	DPF	12	4.77	2.58	5.57	1.075	20.80
		IPF	9	5.59	6.67	4.64	0.00	12.63
Gill Net (fish*hr^{-1}*100m^{-1})	2020	DPF	16	3.34	2.98	2.69	0.42	11.57
		IPF	9	7.14	1.70	15.60	0.00	48.49
	2021	DPF	11	5.20	3.55	4.54	0.44	15.06
		IPF	10	2.62	2.31	1.50	0.24	5.03
	2022	DPF	10	3.94	4.00	3.26	0.00	10.49
		IPF	12	3.83	4.16	1.89	0.00	5.90
	2023	DPF	10	6.91	5.72	6.88	0.00	22.27
		IPF	10	2.65	2.80	2.36	0.00	6.97
	2024	DPF	10	7.66	6.62	7.62	0.00	27.02
		IPF	10	5.03	3.83	5.02	0.89	18.36
Hoop Net (fish/hr)	2020	DPF	7	0.12	0.05	0.17	0.00	0.44
		IPF	4	0.01	0.01	0.00	0.01	0.01
	2021	DPF	6	0.03	0.02	0.03	0.00	0.07
		IPF	1	0.00	0.00	-	0.00	0.00
	2022	DPF	6	0.16	0.08	0.20	0.01	0.55
		IPF	3	0.00	0.00	0.00	0.00	0.00
	2023	DPF	7	0.10	0.04	0.18	0.00	0.51
		IPF	7	0.02	0.00	0.06	0.00	0.16
	2024	DPF	10	0.03	0.03	0.02	0.00	0.069
		IPF	8	0.02	0.00	0.03	0.00	0.076
Trawling (fish/hr)	2020	IPF	1	333.75	333.75	-	333.75	333.75
	2021	DPF	1	116.36	116.36	-	116.36	116.36
		IPF	3	4.76	4.29	5.02	0.00	10.00
	2022	DPF	1	32.20	32.20	-	32.20	32.20
		IPF	1	25.71	25.71	-	25.71	25.71
	2023	DPF	2	16.06	16.06	16.18	4.62	27.50
		IPF	2	23.60	23.60	27.72	4.00	43.20
	2024	DPF	5	3.07	0.00	5.80	0.00	13.33
		IPF	2	24.00	24.00	16.97	12.00	36.00

Note: Note: DPF = Direct Project Footprint; IPF = Indirect Project Footprint; SD = Standard deviation.

Table 8: Statistical Testing Results for CPUE of All Fish Species Combined, Arctic Char, and Fourhorn Sculpin for Select Fishing Methods (2020-2024).

Taxon	Model			
	Variable	Chi square	Df	P value
All Species Combined	**Angling – Jigging**			
	Area	3.877	1	**0.049**
	Year	7.660	4	0.105
	Area:Year	4.975	4	0.290
	Gill Net			
	Area	9.581	1	**0.002**
	Year	12.657	4	**0.013**
	Area:Year	3.474	4	0.473
	Hoop Net			
	Area	23.822	1	**<0.001**
	Year	13.048	4	**0.011**
	Area:Year	Not included in the model		
Arctic Char	**Gill Net**			
	Area	0.005	1	0.945
	Year	8.786	4	0.067
	Area:Year	14.945	4	**0.005**
Fourhorn Sculpin	**Angling – Jigging**			
	Area	6.918	1	**0.009**
	Year	3.087	4	0.543
	Area:Year	Not included in the model		
	Gill Net			
	Area	23.320	1	**<0.001**
	Year	12.617	4	**0.013**
	Area:Year	1.691	4	0.792
	Hoop Net			
	Area	31.841	1	**<0.001**
	Year	11.967	4	0.018
	Area:Year	Not included in the model		

Note: Cells highlighted **blue** indicate statistically significant results (p-value <0.05). Area includes DPF (Direct Project Footprint) and IPF (Indirect Project Footprint). Df = degrees of freedom.

Table 9: Grouped Taxa Mean Catch Per Unit Effort by Fishing Method, Fishing Area, and Year (2020-2024)

Method (CPUE Unit)	Year	Area	Arctic Char	Fourhorn Sculpin	Pacific Cod	Shorthorn Sculpin	Other sculpins	Other fishes
Angling – Jigging (fish*hr^{-1}*rod^{-1})	2020	DPF	0.04	2.62	0.97	1.76	0.13	0.00
		IPF	0.15	0.00	1.26	1.61	0.00	0.00
	2021	DPF	0.18	4.09	1.12	0.39	0.81	0.00
		IPF	0.00	0.95	2.46	1.79	0.25	0.00
	2022	DPF	0.00	8.31	0.12	0.50	0.00	0.00
		IPF	0.00	0.00	0.80	2.83	0.00	0.00
	2023	DPF	0.10	2.95	0.41	0.58	0.00	0.00
		IPF	0.00	0.71	0.12	0.13	0.00	0.00
	2024	DPF	0.00	3.29	0.54	0.94	0.00	0.00
		IPF	0.00	2.64	0.04	2.50	0.39	0.00
Gill Net (fish*hr^{-1}*100m^{-1})	2020	DPF	1.10	1.82	0.00	0.24	0.17	0.01
		IPF	5.36	1.37	0.00	0.42	0.00	0.00
	2021	DPF	2.13	2.75	0.00	0.20	0.13	0.00
		IPF	1.29	1.13	0.02	0.13	0.05	0.00
	2022	DPF	1.22	2.72	0.00	0.00	0.00	0.00
		IPF	2.08	1.50	0.00	0.20	0.05	0.00
	2023	DPF	1.23	5.66	0.00	0.03	0.00	0.00
		IPF	0.76	1.87	0.00	0.00	0.02	0.00
	2024	DPF	1.92	5.72	0.00	0.00	0.02	0.00
		IPF	2.33	2.35	0.03	0.31	0.00	0.00
Hoop Net (fish/hr)	2020	DPF	0.00	0.11	<0.01	0.01	<0.01	0.00
		IPF	<0.01	<0.01	<0.01	0.00	<0.01	0.00
	2021	DPF	0.00	0.03	0.00	0.00	0.00	0.00
		IPF	0.00	0.00	0.00	0.00	0.00	0.00
	2022	DPF	0.00	0.15	0.00	0.01	<0.01	0.00
		IPF	0.00	0.00	0.00	0.00	0.00	0.00
	2023	DPF	0.00	0.10	0.00	<0.01	0.00	0.00
		IPF	0.00	0.02	0.00	0.00	0.00	0.00
	2024	DPF	<0.01	0.02	0.00	0.00	0.00	0.00
		IPF	0.00	0.01	0.00	0.00	0.01	0.00
Trawling (fish/hr)	2020	IPF	0.00	0.00	0.00	0.00	71.25	262.50
	2021	DPF	0.00	0.00	0.00	0.00	94.55	21.82
		IPF	0.00	0.00	0.00	0.00	2.29	2.48
	2022	DPF	0.00	0.00	0.00	0.00	23.41	8.78
		IPF	0.00	0.00	0.00	0.00	23.57	2.14
	2023	DPF	0.00	0.00	0.00	0.00	14.81	1.25
		IPF	0.00	0.00	0.00	0.00	16.60	7.00
	2024	DPF	0.00	0.00	0.00	0.00	1.73	1.33
		IPF	0.00	0.00	0.00	0.00	20.00	4.00

Note: Note: DPF = Direct Project Footprint; IPF = Indirect Project Footprint. Taxa with abundances <5% were grouped as follows for all years in which they were present: other sculpins (Arctic Sculpin, Arctic Staghorn Sculpin, Ribbed Sculpin, Spatulate Sculpin, and unidentified sculpins) and other fishes (Arctic Alligatorfish, Arctic Cod, Atlantic Poacher, Atlantic Spiny Lumpsucker, Fourline Snakeblenny, Halfbarred Pout, Northern Sand Lance, Polar Cod, Saddled Eelpout, unidentified cods, and unidentified snailfish).

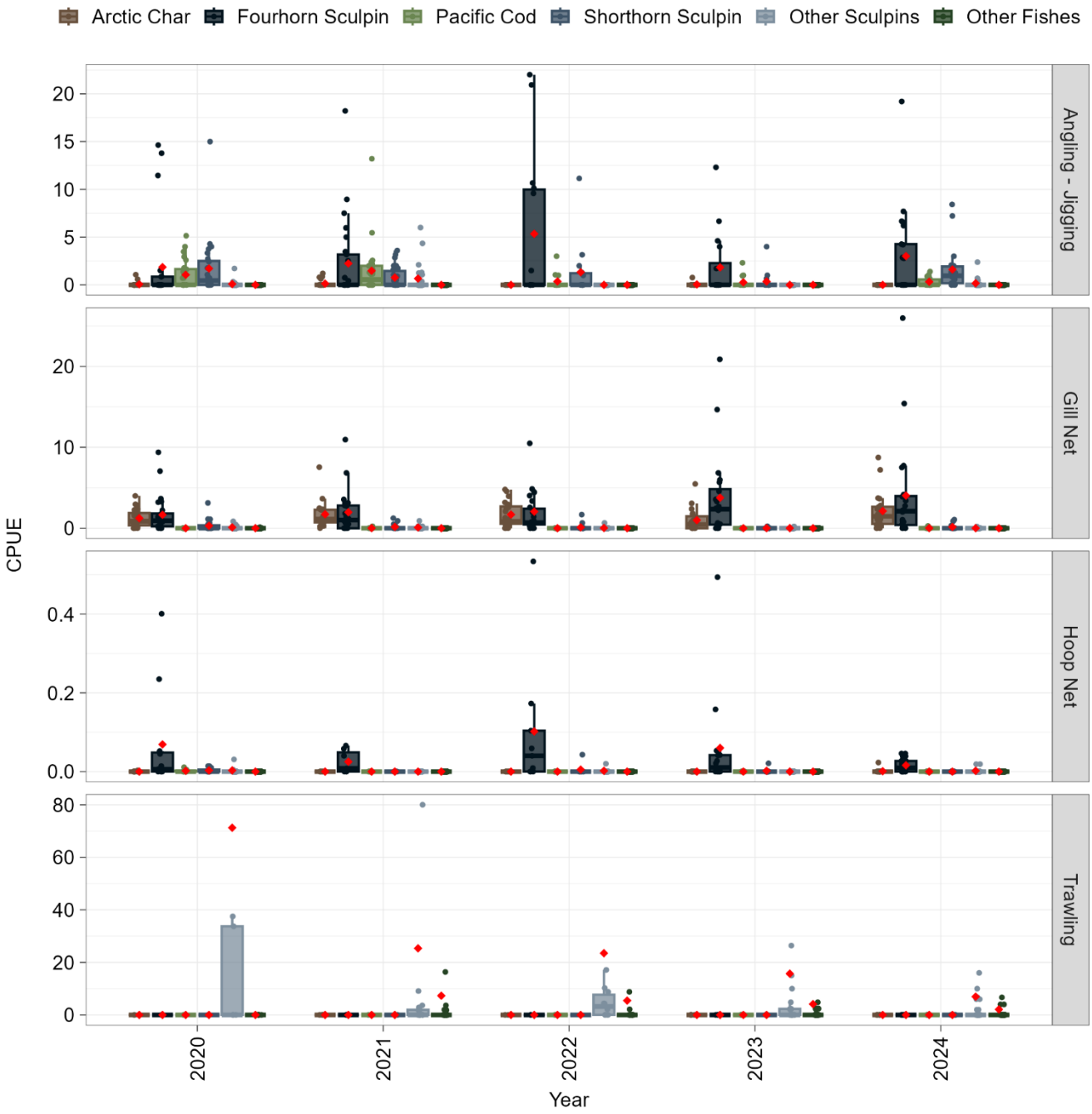


Figure 7: Grouped Taxa Mean Catch Per Unit Effort by Fishing Method (2020-2024)

Note: Red diamonds indicate mean values. Taxa with abundances <5% were grouped as follows for all years in which they were present: other sculpins (Arctic Sculpin, Arctic Staghorn Sculpin, Ribbed Sculpin, Spatulate Sculpin, and unidentified sculpins) and other fishes (Arctic Alligatorfish, Arctic Cod, Atlantic Poacher, Atlantic Spiny Lumpsucker, Fourline Snakeblenny, Halfbarred Pout, Northern Sand Lance, Polar Cod, Saddled Eelpout, unidentified cods, and unidentified snailfish). High outlier values were removed from jigging in 2021 DPF, gill net 2020 IPF, and trawling 2020 IPF for better visualization.

APPENDIX 6E

Power Analysis

POWER ANALYSIS – FISH COMMUNITY CPUE

This section presents the results of a power analysis undertaken for the 2020 to 2024 fish community program in support of the catch-per-unit-effort (CPUE) statistical analyses.

METHODS

A Type I error is concluding there is a significant effect when none exists (i.e., a false positive). Alpha (α) is the probability of committing a Type I error. A Type II error is the probability of concluding there is no significant effect when there is a real effect of some specified magnitude (i.e., a false negative). Beta (β) is the probability of committing a Type II error. The power of a statistical test (1 - β) is the probability of detecting a real effect.

In this analysis, the Type I error-rate (α), also referred to as the significance level, was set to 0.05. The desired minimum statistical power was 80%, which corresponds to a type II error-rate of 0.2. Power analyses were conducted to assess the power of statistical tests under three effect sizes – detection of a reduction of 20%, 30%, and 40% in catch per unit effort in the DPF relative to the IPF area in 2024. A range of sample sizes was assessed for each gear type, to evaluate whether increasing effort within the logistical constraints associated with the sampling would result in sufficient (>80%) statistical power.

Data Simulation following Effect Size Application

The power to detect statistically significant effects was estimated using residual bootstrapping in R v. 4.4.2 (R 2024), following the approach of Fox and Weisberg (2018). The general approach was to simulate data based on the model selected for interpretation, the observed sample size (or the sample size of choice), and the variability estimated by the original model, and re-run the models that were used for the original analysis using the simulated data. The data simulation and analysis were repeated 5,000 times, and the proportion of repetitions where the *P*-values of interest were significant ($P<0.05$) was interpreted as the statistical power of the test.

To produce simulated data, the original model was used to predict values of the response variable, and the dispersion estimated by the original negative binomial model were calculated and retained. The predicted values were then adjusted according to the effect size, depending on analysis (see below for details). For each iteration of the simulation, the adjusted predicted values and the dispersion from the original model were used to generate a randomly drawn sample of negative binomial counts, to produce a set of simulated data. Generating the randomly drawn sample around the effect size-adjusted predictions was done to create a level of variability in the simulated data that was similar to the observed data. The simulated data were then analyzed using the same model structure as the original analysis.

In the analysis of 2020 to 2024 data, the question of interest was a reduction in fish CPUE between DPF and IPF in 2024. That is, the power to detect the interaction between fishing area (FA) and sampling year needed to be assessed. In addition, the power of the multiple comparisons between FAs within year was of interest, specifically for the comparison between areas in 2024, where the effect sizes were applied. The effect was applied as percentage relative to the values predicted for the IPF in 2024. That is, an increasing effect size resulted in a larger difference between the IPF and DPF areas in 2024.

The power to detect a significant main effect of year on an interaction between year and area was assessed, as well as the power to detect a difference between previous years and 2024 in the subsequent multiple comparisons. The effect was applied as percentage relative to the values predicted for 2024. The simulated data

were analyzed using the same model as the original analysis described in the main report, and the *P*-values for the effects of interest were retained, which included both the main effect of area and an interaction with area (for models that included at interaction). If any of these *P*-values were less than 0.05, it was considered a statistically significant result. The proportion of repetitions with *P*-values less than 0.05 was interpreted as the statistical power of the overall regression for that effect size. In addition to the power to detect the interaction between year and area (for models that included an interaction), the power to detect a difference between areas 2024 in the subsequent multiple comparisons was also calculated, where if the *P*-value of the comparison between the IPF and DPF in 2024 was less than 0.05, the comparison was considered significant. For models that did not include an interaction between FA and sampling year due to lack of captured fish in some years in the IPF, multiple comparison power was assessed for comparisons between years, where if the *P*-value of the comparison between each previous year and 2024 was less than 0.05, the comparison was considered significant. The power analysis was performed on three effect sizes – CPUE reductions of 20%, 30%, and 40% relative to the IPF, and a range of sample sizes, depending on fishing gear.

Power Analysis – Reporting of Results

Power curves were produced, showing statistical power as a function of sample size and effect size in percentages. Horizontal lines were added to visualize statistical power values of 0.8 (hereafter sufficient power) and 0.9 (hereafter high power), and the observed effect size was provided in the results.

RESULTS

For the analyses of CPUE, only the analyses of hoop net data (all species and Fourhorn Sculpin) had sufficient power to detect the assessed effects given the evaluated sample sizes (Figure 1). Both of these were models without an interaction; for both, the observed annual sample sizes were sufficient to detect a 20% reduction in CPUE relative to 2023. The high statistical power under observed effect and sample sizes for hoop net sampling (both all species and Fourhorn Sculpin (Figure 1) was due to large interannual differences prior to 2023–2024; that is, power to detect an overall year effect was high regardless of the simulated effect sizes.

None of the remaining models had sufficient power to detect a significant effect of year (Fourhorn Sculpin, angling-jigging) or a significant interaction between year and FA (all other models) under any of the assessed sample sizes and effect sizes (Figure 1). None of the multiple comparisons, for all models, had sufficient statistical power to detect a significant post-hoc comparison – whether a comparison between IPF and DPF in 2024 (for models with an interaction; Figure 2) or a comparison between 2023 and 2024 (for models without an interaction; Figure 3).

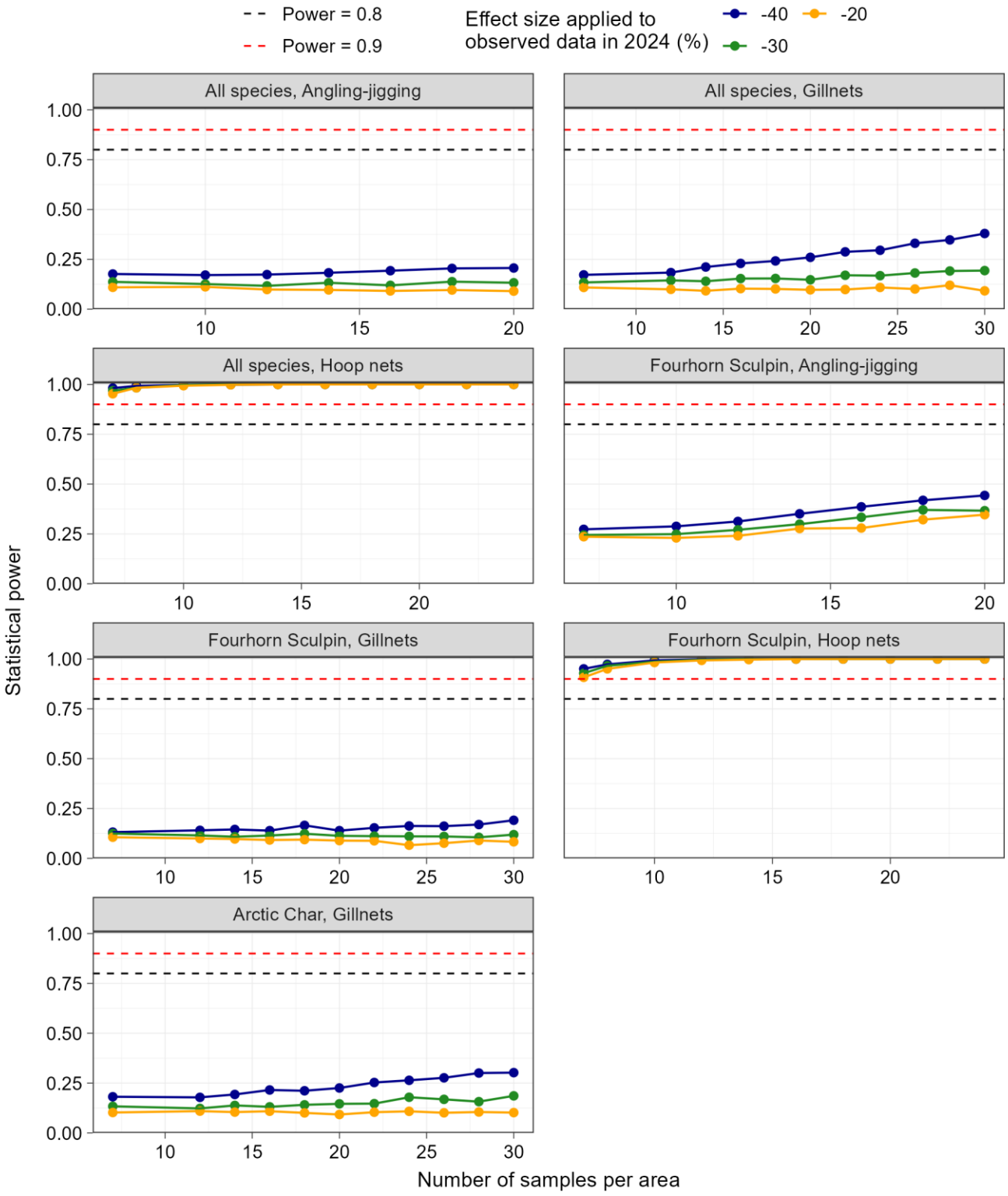


Figure 1: Statistical power of the models of fish CPUE to detect a significant interaction between FA and year (for models with an interaction) or a main effect of year (for models without an interaction), based on CPUE data collected in 2020 to 2024. The first point on each panel shows power given the observed annual sampled sizes.

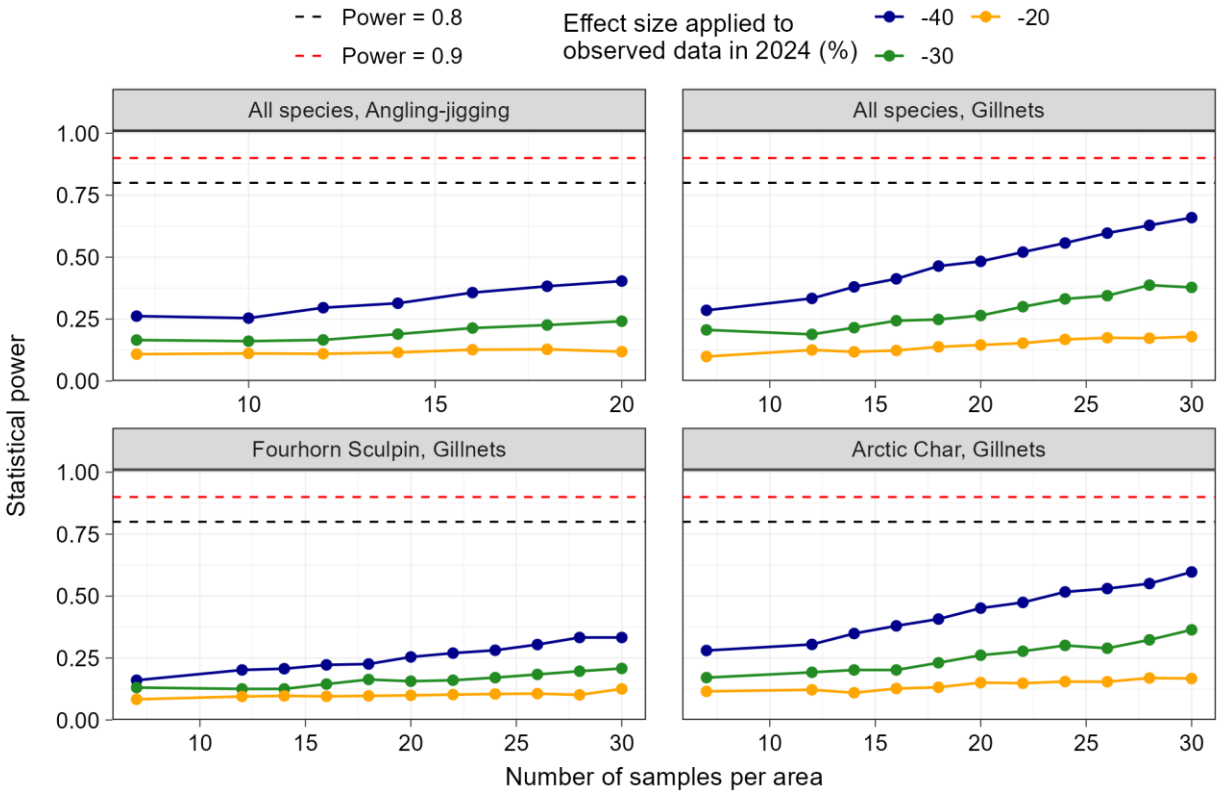


Figure 2: Statistical power of the models of fish CPUE for all species combined to detect a significant post-hoc comparison between IPF and DPF in 2024 (for models with an interaction).

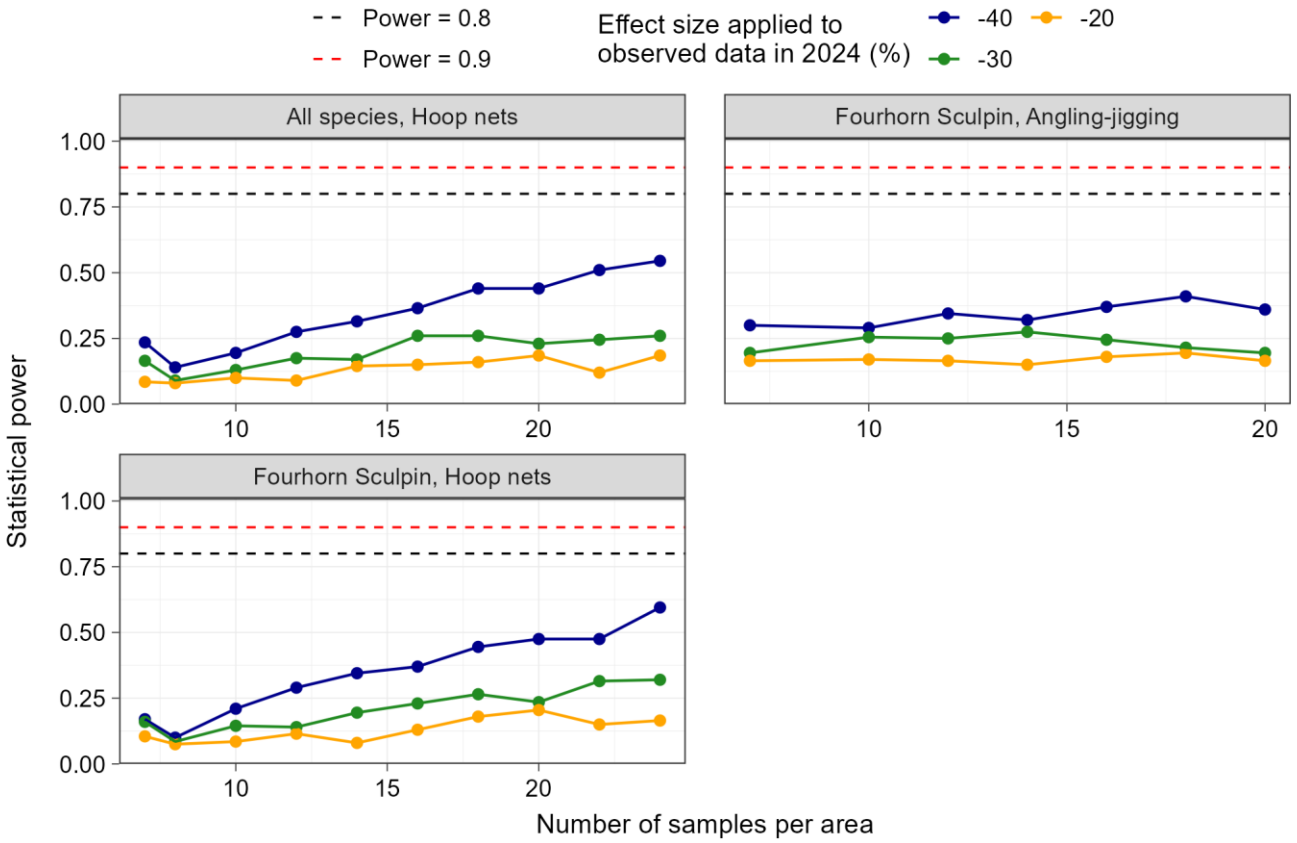


Figure 3: Statistical power of the models of fish CPUE for all species combined to detect a significant post-hoc comparison between 2023 and 2024 (for models without an interaction).

The observed effect sizes for the analyzed CPUE data ranged from -80 (for all species and Fourhorn Sculpin in 2021–2022 hoop nets) +464 (for Fourhorn Sculpin sampled in gillnets in 2022020; Table 1). While observed effect sizes were often large, sample sizes in the dataset were often small and inconsistent between years and areas. For example, 17 angling-jigging sampling events took place at the DPF in 2020, but only seven in the IPF in 2020, and only five in the IPF in 2022. The inconsistency in sample size likely reduced the statistical power of the analysis for the all-species-combined dataset. The large differences in annual differences between IPF and DPF for Arctic Char (Table 1) resulted in the only significant interaction found in the original analyses.

The low power to detect a significant interaction was due to three main causes –

1) data variability,

2) low CPUE in the IPF, relative to which the reduction was being simulated, and

3) the lack of support for an FA-year interaction within previous years (hence requiring a very large difference in 2024 to make the overall interaction significant)

On the other hand, the high power to detect a significant effect of year in the two hoop net models, even under observed effect sizes, was driven by differences in CPUE in 2020 and 2022 sampling years. For example, hoop net data for all species combined had low CPUE values in 2021 and 2023 and high CPUE values in 2020 and 2022, leading to an existing difference between years, regardless of the effect size simulated in 2023–2024.

Table 1: Observed effect sizes for analyses of fish CPUE data from 2020-2023.

Species	Gear	Observed effect sizes (%)				
		2020	2021	2022	2023	2024
All fish combined	Angling-jigging (DPF – IPF)	90	20	146	218	-17
	Gill nets (DPF – IPF)	74	99	4	176	52
	Hoop nets	Range from -80 (2021–2022) to +297 (2020–2023)				
Fourhorn Sculpin	Angling-jigging	Range from -72 (2020–2024) to +61 (2022–2023)				
	Gill nets (DPF – IPF)	464	143	139	219	294
	Hoop nets	Range from -80 (2021–2022) to +361 (2022–2023)				
Arctic Char	Gill nets (DPF – IPF)	-25	67	-37	415	-54

SUMMARY

Overall, statistical power to detect an interaction between year and FA was low, while power to detect an overall year effect (for two of the three models that did not include an interaction) was high. Across all models, including cases where power was sufficient to detect the overall interaction or main effects, there was not sufficient power to detect a post-hoc difference between FAs in 2024 (for models with interaction) or between 2023 and 2024 (for models without an interaction).

Implications of Power Analysis Results

Overall, the results of the power analysis presented here indicate that analyses of fish CPUE data often had low power despite efforts to increase overall sampling size and equalize the sample sizes between the two FAs. Given the low statistical power, going forward, it is recommended differences between FAs should be assessed using effect sizes rather than a strict adherence to statistical significance.

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REPORT

Chapter 7.0 Fish Health and Tissue Chemistry

2024 Milne Port Marine Environmental Effects Monitoring Program (MEEMP) and Non-Indigenous Species/Aquatic Invasive Species (NIS/AIS) Monitoring Program

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APPENDICES

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Fish Health Data

APPENDIX 7B
Fish Tissue Data

APPENDIX 7C
Fish Tissue Boxplots

APPENDIX 7D
Reference Area Supporting Environmental Data

APPENDIX 7E
Certificates of Analysis

ACRONYMS AND ABBREVIATIONS

Acronym or Abbreviation	Definitions
ANCOVA	analysis of covariance
ANOVA	analysis of variance
BC MOE	British Columbia Ministry of Environment
Biologica	Biologica Environmental Services Ltd.
BV labs	Bureau Veritas Laboratories
CES	critical effect size
COC	chain of custody
COPCs	constituents of potential concern
CRC ICPMS	collision reaction cell inductively coupled plasma mass spectrometry
DL	detection limit
dw	dry weight
EEM	Environmental Effects Monitoring
FEIS	2012 Final Environmental Impact Statement
g	gram
GAM	generalized additive model
GSI	gonadosomatic index
km	kilometre
K-S Test	Kolmogorov-Smirnov test
log_{10}	log_{10}-transformed data
LR	Linear regression
LSI	liver somatic index
MDMER	Metal and Diamond Mining Effluent Regulations
MEEMP	Marine Environmental Effects Monitoring Program
mg/kg	milligrams per kilogram
nm	milligram
min	minimum
max	maximum
MSI	mantle somatic index
n	sample size
n/a	not applicable
nc	not calculated

Acronym or Abbreviation	Definitions
PAH	polycyclic aromatic hydrocarbon
PC	Project Certificate
P-value	probability value
QA/QC	quality assurance and quality control
RPD	relative percent differences
SD	Standard Deviation
SE	Standard Error
SR	studentized residuals
TARP	Trigger Action Response Plan
ww	wet weight

7.0 FISH HEALTH AND TISSUE CHEMISTRY

7.1 Introduction

This chapter presents the results of the 2024 fish health and tissue chemistry monitoring program, a component of the larger Marine Environmental Effects Monitoring Program (MEEMP) conducted in Milne Inlet during the 2024 open-water season. The fish health and tissue chemistry component was developed in consideration of the potential Project-related impacts to the marine environment as identified in the 2012 Final Environmental Impact Statement (FEIS) and subsequent addenda, as well as monitoring requirements outlined in the Project Certificate (PC) Conditions described in Chapter 1.0, Table 1-2. Those conditions related to the monitoring of fish health include PC Conditions No. 76, 83 (a), 99 (a), 113, and 114; a summary of monitoring components addressing specific PC conditions is presented in Table 7-1.

Table 7-1: Summary of Monitoring Components Addressing Project Certificate (PC) Conditions Related to Fish Health and Tissue Chemistry

PC Condition	Description	Monitoring Component
76	The Proponent shall develop a comprehensive Environmental Effects Monitoring Program to address concerns and identify potential impacts of the Project on the marine environment.	Fish Health & Tissue Chemistry – Spatial and Temporal Comparisons
83(a)	The Proponent shall […] in the Milne Inlet Port area […] determine the potential impacts arising from disturbance to sediments including re-suspension and subsequent transport and deposition of sediment. […]. The monitoring program shall include an ongoing assessment of the potential introduction of metals that bio-accumulate in the marine food chain.	Tissue Chemistry – Temporal Comparisons
87	The Proponent shall develop a detailed monitoring program at a number of sites over the long term to evaluate changes to marine […] organisms […]. This program needs to be able to detect changes that may have biological consequences and […] collect sufficient baseline data and should continue over the life of the Project.	Fish Health & Tissue Chemistry – Temporal Comparisons
99(a)	Establish shipping season, inter-annual baseline in […] Milne Inlet that enables effective monitoring of physical and chemical effects of ballast water releases, sewage outfall, and bottom scour by ship props […]. This shall include the selection and identification of […] biological community/indicator components [… including] both pelagic and benthic species but with emphasis on relatively sedentary benthic species (e.g., sculpins).	Arctic Char (pelagic) Fourhorn Sculpin (benthic) *Hiatella arctica* (benthic) Fish Health & Tissue Chemistry – Spatial and Temporal Comparisons
113	The Proponent shall conduct monitoring of marine fish and fish habitat, which includes but is not limited to, monitoring for Arctic Char stock size and health condition in Steensby Inlet and Milne Inlet, as recommended by the MEWG.	Arctic Char Fish Health – Temporal Comparisons
114	In the event of the development of a commercial fishery in the […] Milne Inlet-Eclipse Sound [area], the Proponent […] shall update its monitoring program for marine fish and fish habitat to ensure that the ability to identify Arctic Char stock(s) potentially affected by Project activities and monitor for changes in stock size and structure of affected stocks and fish health (condition, taste) is maintained to address any additional monitoring issues identified by the MEWG relating to the commercial fishery.	Arctic Char Fish Health – Temporal Components

Project Certificate (PC) Condition descriptions have been edited for conciseness and relevance to Milne Inlet: text that has been edited or removed is indicated using square brackets, […].

MEWG = Marine Environment Working Group.

7.1.1 Objectives

The MEEMP objectives are outlined in Section 1.3 for the overall program. The objectives specific to the fish health and tissue chemistry component are:

- Better align the MEEMP with the Metal and Diamond Mining Effluent Regulations (MDMER) Environmental Effects Monitoring (EEM) program (Government of Canada 2002) through the selection of sentinel species, measurements of additional health indicators to monitor for effects from the Project, and comparisons with local reference areas.
- Evaluate the health of the sentinel species, Fourhorn Sculpin (*Myoxocephalus quadricornis*) and Wrinkled Rock-Borer (*Hiatella arctica*), through the assessment of established endpoints (see Section 7.2), length-frequency distributions, length-weight relationships, and visual assessment of internal and external abnormalities.
- Compile current and previously collected tissue chemistry data for Arctic Char (*Salvelinus alpinus*), Fourhorn Sculpin, and *H. arctica*, and assess concentrations of constituents of potential concern (COPCs) associated with the Project.

7.2 Study Design

The fish health and tissue chemistry components of the MEEMP were designed to monitor for potential Project-related impacts and changes to fish health and communities through collection of fish population data. Fish were collected using a combination of active and passive fishing methods, and sentinel species were assessed through health assessments and the analysis of tissue chemistry parameters. Incidental mortalities of Arctic Char were also included in the fish health assessment.

During baseline and early MEEMP surveys, fish tissue sampling was limited to incidental Arctic Char mortalities, the numbers of which fluctuated from year to year and did not always yield adequate samples to support a meaningful statistical analysis. In 2018, a local shellfish species (*H. arctica*) was added to the MEEMP as an additional effects indicator for the fish sampling program. *Hiatella arctica* is a resident species in the Project area, easily identifiable and measurable in the field, and abundant in the study area (Golder 2018). Measurement endpoints for *H. arctica* in 2018 and 2019 included age and tissue chemistry analysis.

In 2020, changes to the fish health and tissue chemistry program were implemented to better align the MEEMP with the Metal and Diamond Mining Effluent Regulations (MDMER) Environmental Effects Monitoring (EEM) program (Government of Canada 2002). While the Milne Port is not subject to the MDMER, the study design for the MEEMP was based on this framework as a best-practice reference for environmental effects monitoring. Fourhorn Sculpin and *H. arctica* were selected as sentinel species to monitor for effects from the Project. Lethal target sample sizes were established for Fourhorn Sculpin and *H. arctica* as part of the 2020 fish health program. Fish health effect indicators included measures of energy use (i.e., growth, reproduction), energy storage (i.e., condition) and survival (i.e., age), in addition to supporting endpoints (as appropriate for each species) such as length, body weight, the prevalence of external and internal abnormalities, organ weights, stomach fullness, parasite presence/absence, sex, life stage, and state-of-maturity (Section 7.4.1). In 2023, relative shell weight was added as an endpoint for *H. arctica* to better align the MEEMP program with MDMER EEM endpoints.

For fish tissue chemistry, concentrations of total metals[1] and polycyclic aromatic hydrocarbons (PAHs) were measured (Section 7.4.2; Appendix 7A) from each species (i.e., Arctic Char, Fourhorn Sculpin, and *H. arctica*) and compared to MEEMP data from previous years, where possible. Historical data available for comparison varied for each species, with data extending intermittently back to 2010 for Arctic Char, and back to 2018 for Fourhorn Sculpin and *H. arctica*.

7.2.1 Modifications to the Program (2024)

Reconnaissance surveys were undertaken in 2021, 2022, and 2023 with the goal of identifying a suitable reference area (Golder 2022, 2023; WSP 2024). Based on results of these surveys, suitable reference areas for Fourhorn Sculpin and *H. arctica* have been identified and implemented as part of the MEEMP. Tugaat River Estuary was previously identified as a suitable reference area for *H. arctica*, as sufficient numbers of individuals were captured to support the monitoring program. Results of the 2023 reconnaissance surveys indicated that Koluktoo Bay hosts a sufficient population of Fourhorn Sculpin to function as a reference area for this species. Therefore, in 2024 as in 2023, Koluktoo Bay and Tugaat River Estuary served as reference locations to support spatial comparisons, consistent with MDMER EEM program requirements, for fish health and tissue chemistry endpoints.

No other significant modifications were made to the fish health and tissue chemistry MEEMP component in 2024.

7.2.2 Indicators and Thresholds

Along with several other components of the MEEMP, the fish health monitoring program has indicators, thresholds and risk categories that are part of Baffinland's Trigger Action Response Plan (TARP), an adaptive management process. The TARP uses effect indicators that are measured against a series of tiered thresholds (i.e., low, moderate and high-risk thresholds) that are designed to guide short-term and long-term adaptive management strategies as outlined in Baffinland (2024). The pre-defined actions identified in the TARP describe the responses that Baffinland would implement should the corresponding threshold levels be exceeded and assuming there is some degree of certainty that the measured change is Project-related. As adaptive management is beyond the scope of the present report, only the indicators, condition statuses, and thresholds are presented here (Section 1.4).

7.3 Materials and Methods

7.3.1 Sampling Areas

Fish health sampling occurred in 2024 in three areas: (1) near Milne Port (17W 503700m E, 7976400m N), approximately 80 km northwest of the Mary River Project (Figures 6-1 to 6-4), (2) in Koluktoo Bay, and (3) in Tugaat River Estuary (Figure 7 1). The latter two areas represent two reference areas to support the fish health program of the MEEMP.

[1] Includes metals, metalloids, and non-metals. Metals are broadly defined as elements which are good conductors of electricity and heat, which form cations by loss of electrons, and which yield basic oxides and hydroxides (Wood et al. 2012). Metalloids share some but not all properties of metals, while non-metals mostly lack characteristics of metals.

505000 510000 515000 520000 525000

8005000 8000000 7995000 7990000 7985000 7980000

Stephens Island

Milne Inlet

SEE DETAIL MAP: KOLUKTOO BAY

ANJ16

Bruce Head

Poirier Island

Koluktoo Bay

SEE DETAIL MAP: TUGAAT RIVER

Tugaat River

Milne Inlet

Assomption Harbour

MILNE PORT

KEY MAP

GREENLAND

RESOLUTE

Baffin Bay

POND INLET

ENLARGED AREA

BAFFIN ISLAND

IGLOOLIK

NUNAVUT

PANGNIRTUNG

KINNGAIT

IQALUIT

RANKIN INLET

Hudson Bay

QUEBEC

DETAIL MAP: TUGAAT RIVER

TGT-Ref-1

TGT-Ref

TGT-Ref

TGT-Ref

0 500 1,000

1:20,000 METRES

DETAIL MAP: KOLUKTOO BAY

ANJ05 GN03 ANJ20 GN01 GN16 GN25 GN05 GN04 GN17 ANJ31 ANJ03 GN15 ANJ02 GN02 KLK-Ref-1 ANJ04 GN14 ANJ01 ANJ17 ANJ30 KLK-Ref-1-SG ANJ32 ANJ18 ANJ19

Koluktoo Bay

0 250 500

1:10,000 METRES

LEGEND

- COMMUNITY
- MILNE PORT
- APPROXIMATE SHIPPING ROUTE
- WATERBODY

2024 FISH HEALTH RECON STATIONS

- ANGLING EFFORT
- *Hiatella arctica* SAMPLING LOCATION
- SEDIMENT QUALITY
- WATER QUALITY
- WATER QUALITY/SEDIMENT QUALITY
- ANGLING EFFORT
- GILL NET EFFORT

0 2 4

1:100,000 METRES

REFERENCE(S)

SHIPPING ROUTE DATA BY CLIENT, JULY 14, 2020. HYDROGRAPHY, POPULATED PLACE, AND PROVINCIAL BOUNDARY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. IMAGERY COPYRIGHT © 20240718 ESRI AND ITS LICENSORS. SOURCE: MAXAR. USED UNDER LICENSE, ALL RIGHTS RESERVED.
PROJECTED COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

TITLE
SAMPLING LOCATIONS IN KOLUKTOO BAY AND TUGAAT RIVER ESTUARY, MEEMP 2024

CONSULTANT

wsp

YYYY-MM-DD	2025-04-10
DESIGNED	NZ
PREPARED	AA
REVIEWED	CA
APPROVED	NZ

PROJECT NO.	CONTROL	REV.	FIGURE
CA0026317.6821	86200.04	0	7-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

25mm

0

Milne Port is located at the southern end of Milne Inlet, within a narrow fjord, surrounded by relatively steep, bedrock slopes. Fish habitat is composed mainly of coarse rock substrates (i.e., boulders with sparse cobbles) near the Ore Dock, and open-water habitat in the Milne Inlet. Sculpin species, including Fourhorn Sculpin and Shorthorn Sculpin (*Myoxocephalus scorpius*), are relatively abundant at Milne Port, as are Arctic Char (see Chapter 6.0 for further information).

The reference area for Fourhorn Sculpin is located in Koluktoo Bay (17X 506100m E, 7997100m N), approximately 20 km north of Milne Port. The Robertson River, which has formed a relatively large, sandy delta, feeds into Koluktoo Bay along the western shore. The remainder of the bay is bordered by gently sloping bedrock to the north, and steeper bedrock slopes to the south. Fish habitat is composed of a mixture of coarse rocks, cobbles, and fine sediments, comprising long, shallow, sandy littoral habitat and boulder/cobble reefs, prior to dropping off into deeper habitat. Previous reconnaissance surveys captured Fourhorn Sculpin, Shorthorn Sculpin, and Arctic Sculpin (*Myoxocephalus scorpioides*) in Koluktoo Bay (WSP 2023).

The reference area for *H. arctica* was located near Tugaat River Estuary (17X 522700m E, 7996700m N), approximately 28 km northeast of Milne Port, where the Tugaat River enters Milne Inlet. Substrates in Milne Inlet near Tugaat River Estuary were primarily fine sediments, being mainly composed of sand with some cobble.

Field Methodology

Arctic Char and Fourhorn Sculpin

Finfish community sampling was conducted at various locations near Milne Port and along the north shore of Koluktoo Bay, from 3 to 19 August 2024 (Figure 6-1 to Figure 6-5). Fishing effort included both active (i.e., angling by jigging, and trawling) and passive (i.e., hoop nets and gillnetting) capture methods. Captured fish were enumerated and measured for length and weight. Capture methods are described in detail in Section 6.4.1.3 of Chapter 6.0.

In Milne Port, captured Arctic Char were processed as part of the Marine Fish Community Program (Chapter 6.0). Incidental mortalities of Arctic Char were retained for analysis of age, stomach contents, and tissue metals concentrations. A subsample of 40 Fourhorn Sculpin captured in Milne Port were retained for fish health sampling to meet target sample sizes of 20 adult males and 20 adult females. Results of these analyses for Arctic Char are presented herein, with biometric measurements included, where relevant, as supporting information. At Koluktoo Bay, a subsample of 39 Fourhorn Sculpin captured were retained for fish health sampling, resulting in a total 20 female and 19 male fish. All other fish were released alive back to Milne Inlet at their location of capture.

The primary method of capture for Fourhorn Sculpin in 2024 was angling. Angling (i.e., jigging) efforts were focused on the western and eastern sides of the Ore Dock in coarse rock habitat at depths between 1 m and 5 m (consistent with previous years). Fishers angled by jigging from a stationary position, with two to five rods and lines deployed from the field vessel anchored adjacent to the riprap. Hooks or spoon lures (i.e., flashers) were lowered into the riprap at the target depth, then flicked upward to attract fish within the coarse rock habitat.

Hiatella arctica

Hiatella arctica were collected opportunistically from benthic infauna samples, with a target subsample of 40 individuals retained from each sampling area (i.e., Milne Port and Tugaat River Estuary) for fish health and tissue chemistry sampling. A total of 40 *H. arctica* were collected from Milne Port, while a total of 29 *H. arctica* were collected from Tugaat River Estuary. Collection methods for benthic infauna are described in Section 4.3.1 in Chapter 4.0. Each benthic sample was checked for the presence of *H. arctica*. In Milne Port, samples to be

retained for the fish health and tissue chemistry program were obtained from benthic grab samples collected from the northwestern, western, eastern, and northeastern transects (Figure 3-1). For both sampling areas, a maximum of five individuals were selected when benthic grab samples contained the greatest numbers of *H. arctica*. Specimens were selected for processing if the shell was intact, greater than 15 mm in length, and had no indications of damage to the umbo or hinge area.

7.3.2 Fish Processing

Arctic Char and Fourhorn Sculpin

Incidental mortalities of Arctic Char occurring as a result of fish community surveys (Chapter 6) collected in Milne Port were retained for processing. Fourhorn Sculpin that were retained for fish health sampling were held live in aerated 70 litre totes containing water from the captured location until they were lethally processed at Milne Port. Both external and internal assessments were completed on lethally sampled fish following standardized procedures consistent with MDMER EEM program requirements (Environment Canada 2012). Total lengths (± 1 mm) and total body weights (± 0.001 g) of the fish were documented, and external observations of fish features (i.e., body form, eyes, skin, thymus, opercula, gills, pseudobranchs, fins, vent, and parasites) were recorded. Abnormal features (e.g., wounds, tumours, parasites, fin fraying, gill parasites, or lesions) were documented and photographed. Fish were sacrificed by a concussive blow to the head followed by cervical dislocation (i.e., cutting the spinal cord behind the head). Each fish was handled using new nitrile gloves and dissected on a cutting board covered in a clean sheet of plastic wrap that was changed between fish. The condition of the internal organs (e.g., liver, spleen, gall bladder, and kidneys) was assessed immediately after opening the body cavity and documented. Any abnormalities in size, shape, or colouration of the internal organs were documented. Liver weight and an estimate of percent mesenteric fat were recorded. The gonads of each fish were removed, weighed (± 0.001 g), and photographed before assigning sex and maturity stage, based on the macroscopic features described in Table 7-2. Parasite presence and predominance were recorded, and parasite weight was documented if large parasites (e.g., tapeworms) were observed in the body cavity.

Stomachs, ageing structures (i.e., otoliths[2]), and dorsal muscle tissue samples were collected from Arctic Char and Fourhorn Sculpin. Sagittal otoliths were extracted as the primary aging structure, wrapped in parchment paper, and stored dry in individually labelled coin envelopes until submission for aging analysis. Stomach fullness was recorded, and the stomachs were removed, placed in individually labelled Nalgene containers, and preserved with 10% formalin. For Arctic Char and Fourhorn Sculpin, one muscle sample (> 10 g) without skin was collected from the left dorsal side of each fish using a fillet knife rinsed with 10% nitric acid then deionized ultrafiltered water. The fillets were weighed (± 0.001 g), placed on ice in individually labelled Whirlpack bags, and stored frozen until submission for metals analysis. A second muscle sample (> 10 g) without skin was collected from the right dorsal side of each fish using a fillet knife rinsed with acetone then deionized ultrafiltered water. The fillets were weighed (± 0.001 g) on tared aluminum foil, wrapped in aluminum foil, placed on ice in individually labelled Whirlpack bags, and stored frozen for PAH analysis.

[2] Otoliths are paired bony structures located behind the eyes in fish. Counting the annual growth rings on the otoliths is a common technique in estimating the age of many fish species.

Hiatella arctica

Those *H. arctica* retained for fish health sampling were selected based on the external condition of the shell (i.e., > 15 mm long with intact valves and no visible damage to the umbo). Individuals were measured along the largest axis (± 1 mm), weighed (± 0.001 g), and then placed on ice in individually labelled Whirlpack bags and stored frozen until submitted for further processing and tissue chemistry analysis.

Table 7-2: Gonad Maturity Stages for Male and Female Fish Used During the Fish Health Assessment, 2024

Sex	Stage	Code	Macroscopic features
Female	Unknown stage	10	Unable to determine stage.
	Immature	11	Small ovaries, often clear, blood vessels indistinct.
	Early Stage Development	12	Enlarging ovaries, blood vessels more distinct. Granular in appearance.
	Late Stage Development	13	Large ovaries filling the body cavity, prominent blood vessels. Individual oocytes visible.
	Ripe	14	Eggs released with gentle pressure on abdomen.
	Spent	15	Deflated ovaries, blood vessels prominent.
	Reabsorbing	16	Small atretic oocytes throughout the ovaries, which are hard and white.
	Resting	17	Small ovaries, blood vessels reduced but present.
Male	Unknown stage	20	Unable to determine stage.
	Immature	21	Small testes, often clear and threadlike.
	Early Stage Development	22	Small testes, semi-translucent, but easily identified.
	Late Stage Development	23	Testes large, firm, and lobate. White to purplish in colour. Granular appearance.
	Ripe	24	Milt released with gentle pressure on abdomen.
	Spent	25	Small and deflated testes. Blood vessels obvious. Violet-pink in colour.
	Reabsorbing	26	Not typically observed in males.
	Resting	27	Small testes, often threadlike.

Notes: Table modified from Brown-Peterson et al. (2011).

7.3.3 Laboratory Methodology

Samples collected from both fish species and *H. arctica* were submitted for laboratory analysis. For Arctic Char and Fourhorn Sculpin (Section 7.3.2.1), muscle samples were submitted for tissue chemistry analysis, stomachs were submitted for contents analysis, and ageing structures were submitted for age determination. Collected *H. arctica* (i.e., whole animals) were sent to a laboratory specialized in marine invertebrates for additional processing (per Section 7.3.3.2.1) and subsequent submission of tissues for tissue chemistry analysis.

7.3.3.1 Arctic Char and Fourhorn Sculpin

7.3.3.1.1 Age

Otoliths extracted from Arctic Char and Fourhorn Sculpin, were examined by North/South Consultants Inc. (Winnipeg, MB) to determine the age of the fish. Whole otoliths from individual fish were mounted on microscope slides to estimate age based on the number of annuli (i.e., growth rings) visible under a dissecting microscope. To verify that data quality objectives were met, 10% of fish age estimates were independently verified by a second qualified biologist.

7.3.3.1.2 Stomach Contents

Enumeration and taxonomic identification of stomach contents for Arctic Char and Fourhorn Sculpin were conducted by Biologica. Percent fullness and percent digestion was recorded for each stomach before dissection and identification based on the professional judgement of the taxonomist. Prey items were identified to the lowest practical taxonomic level (i.e., to species when possible) using published methods and taxonomic references. Digested and unidentifiable materials were categorized (e.g., unidentified insect parts, digested tissue, non-food, and others). The taxonomic composition within each stomach was determined as percentages of major invertebrate groups by abundance.

7.3.3.1.3 Tissue Chemistry

Muscle tissue samples collected from eight Arctic Char and eight Fourhorn Sculpin from Milne Port area and from eight Fourhorn Sculpin from Koluktoo Bay were submitted to Bureau Veritas Laboratories (BV Labs; Burnaby, BC) for tissue chemistry analyses (Appendix 7A, Table 7A-1). Moisture content and metals concentrations were measured; moisture content was determined by oven drying and metals concentrations were determined by collision reaction cell inductively coupled plasma mass spectrometry. Concentrations of PAHs were determined by gas chromatography mass spectrometry.

7.3.3.2 Hiatella arctica

7.3.3.2.1 Processing and Age Determination

Frozen *H. arctica* were processed by Biologica. *Hiatella arctica* were measured for total length, total width, and total weight, as well as wet weight (ww) of the whole organism, shells, soft tissues, and gonads. Shell dry weight (dw) was also measured. Ages of *H. arctica* were determined using shells.

For *H. arctica* ageing, each shell was sectioned through the umbo-rim axis using a lapidary saw with a diamond-impregnated blade and polished using progressively finer grit sandpaper. Polished shells were etched in a solution of 1% hydrochloric acid for one minute, rinsed with tap water, and dried. An acetate peel of the polished umbo surface was mounted on a slide and examined using a dissecting microscope. Distinct, continuous growth lines were counted to determine the age of the shell. To verify that data quality objectives were met, 10% of *H. arctica* age estimates were independently verified by a second qualified biologist.

7.3.3.2.2 Tissue Chemistry

A total of eight *H. arctica* composite soft tissue samples were submitted to BV Labs for tissue chemistry analyses (Appendix 7B, Table 7B-1). *Hiatella arctica* composites were composed of two to three individuals to satisfy weight requirements for metals analysis (Appendix 7B, 7B-2). For PAH analysis, no *H. arctica* composite samples were submitted in 2024 in order to maximize the number of samples that could be submitted for metals analysis, due to mass requirements for metals analysis (Appendix 7B, 7B-2 and 7B-8). PAH concentrations in *H. arctica* have consistently been below DL in previous programs. Concentrations of metals and PAHs and the percent moisture content were determined using the same methods as described in Section 7.3.3.1.3.

7.3.4 Data Analysis

Descriptive statistics (i.e., sample size, mean, median, standard deviation [SD], standard error [SE], minimum, and maximum values) were calculated for fish health and tissue chemistry data collected in 2024, as well as fish health endpoints and tissue concentrations of metals and PAHs in Arctic Char, Fourhorn Sculpin, and *H. arctica* available from 2018 to 2023.

Fish health indices for Arctic Char and Fourhorn Sculpin were calculated as follows:

$$Condition\ factor = \left(\frac{total\ weight}{total\ length^3}\right) \times 100{,}000$$

Additional fish health indices calculated for Fourhorn Sculpin were as follows:

$$Gonadosomatic\ index\ (GSI) = \left(\frac{gonad\ weight}{total\ weight}\right) \times 100$$

$$Liver\ somatic\ index\ (LSI) = \left(\frac{liver\ weight}{total\ weight}\right) \times 100$$

Fish health indices for *H. arctica* were calculated as follows:

$$Condition\ factor = \left(\frac{total\ wet\ weight}{total\ length^3}\right) \times 10{,}000$$

$$Mantle\ somatic\ index\ (MSI) = \left(\frac{gonad\ wet\ weight}{soft\ tissue\ wet\ weight - gonad\ wet\ weight}\right) \times 100$$

Weight and length measurements were reported in units of grams (g) and millimetres (mm), respectively. For Arctic Char, total length measurements were not collected in 2022. Therefore, total lengths were estimated using fork length-total length formulas in Peet (1978).

7.3.4.1 Fish Health Endpoints

For Arctic Char, Fourhorn Sculpin, and *H. arctica,* fish health endpoints were compared using statistical methods. Comparisons were completed temporally (i.e., among years for the Milne Port) for all fish species, and spatially (i.e., between the Milne Port and the references areas in 2024) for Fourhorn Sculpin and *H. arctica*.

For all analyses, data were $\log_{10}$- or rank-transformed prior to analysis if it increased the coefficient of determination (R^2) and/or satisfied model assumptions. Significant differences between years or sampling areas were determined using an alpha (α) of 0.10 (i.e., *P*-values ([*P*] < 0.10 were considered significant).

Arctic Char and Fourhorn Sculpin

Limited fish health data are available for Arctic Char, and thus condition factor was used as the main fish health endpoint for this species. Condition factor comparisons for Arctic Char were conducted by pooling sexes and life stages (i.e., juvenile, adult) to detect potential differences between 2021, 2022, 2023, and 2024. These data were pooled as sex and life stage information were not available for individual fish from all sampling years. Trends in condition factor over time were assessed using a nonlinear regression model to account for nonlinear trends over time.

For Fourhorn Sculpin, comparisons were conducted separately by sex for the health endpoints presented in Table 7-3 to detect potential spatial differences between Milne Port and Koluktoo Bay in 2024. Comparisons between Milne Port and Koluktoo Bay were completed using general linear models. Differences in age were assessed using ANOVA. Differences in mean size-at-age, condition, relative liver weight, and relative gonad weight were assessed using analysis of covariance (ANCOVA). *Post hoc* comparisons among years for ANOVA and ANCOVA models were completed using Tukey's Honest Significant Difference test, with *P*-values adjusted for multiple comparisons (Tukey 1977).

In addition, temporal trend assessments were completed for fish health endpoints, separately by sex, for Fourhorn Sculpin captured in Milne Port in 2020, 2021, 2022, 2023, and 2024 at Milne Port. Trend assessments were completed using generalized additive models (GAM), an extension of general linear models that can incorporate nonlinear relationships (Wood 2017) between a dependent variable and predictor variables (i.e., sampling year). Temporal trend models were parameterized as:

$$y = \alpha + s(Year) + \varepsilon$$

where:

y is dependent variable,
α is the intercept,
$s(Year)$ is the nonlinear effect of sampling Year, and
ε is the residual error.

Trends in age were assessed using a simple GAM model. Trends in mean size-at-age, condition, relative liver weight, and relative gonad weight, all of which depend on a linear covariate, were assessed on adjusted responses; ANCOVA models were used to adjust responses prior to trend assessments, using the following parameterization:

$$y = \alpha + Year + Covariate + Year{:}\,Covariate$$

where:

y is the response variable (e.g., total weight),
α is the intercept,
$Year$ is the fixed, categorical effect of sampling Year,
$Covariate$ is the fixed, continuous, linear effect of the covariate (e.g., age; Table 7-3), and
$Year{:}\,Covariate$ is the interaction between sampling Year and the covariate.

Temporal trends were assessed based on the nonlinear Year effect in the GAM model: if this effect was significant, indicating significant temporal trends across sampling years, a *post hoc* slope trend test was used to assess trend significance during each sampling year.

Table 7-3: Statistical Procedures Used to Evaluate Fourhorn Sculpin Health Endpoints

Indicator	Endpoint	Response Variable (y)	Covariate (x)	Statistical Procedure
Spatial Comparisons				
Survival	Age	Age	n/a	ANOVA
Growth	Size-at-Age	Total Weight	Age	ANCOVA
Condition	Condition	Total Weight	Total Length	ANCOVA
	Relative Liver Weight	Liver Weight	Total Weight	ANCOVA
Reproduction	Relative Gonad Weight	Gonad Weight	Total Weight	ANCOVA
Temporal Comparisons				
Survival	Age	Age	n/a	GAM
Growth	Size-at-Age	Total Weight	Age	Covariate-adjusted GAM
Condition	Condition	Total Weight	Total Length	Covariate-adjusted GAM
	Relative Liver Weight	Liver Weight	Total Weight	Covariate-adjusted GAM
Reproduction	Relative Gonad Weight	Gonad Weight	Total Weight	Covariate-adjusted GAM

ANOVA = analysis of variance; ANCOVA = analysis of covariance; GAM = generalized additive model.

Shellfish

For *H. arctica*, statistical comparisons were conducted for fish health endpoints presented in Table 7-4 to detect potential spatial differences between Milne Port and Koluktoo Bay in 2024. Comparisons between Milne Port and Koluktoo Bay were completed using general linear models and nonparametric methods. Differences in length-frequency distributions between sampling areas were assessed using a two-sample Kolmogorov-Smirnov (K-S) test. This test compares the cumulative relative distributions of total length between years by comparing the maximum percent difference between the two cumulative relative frequency distributions to a critical value. The test assesses whether the maximum percent difference is large enough to indicate that the two distributions are from different populations. Differences in total weights (i.e., whole animal ww) were assessed using ANOVA. Differences in condition and reproduction endpoints were assessed using ANCOVA. *Post hoc* comparisons among years for ANOVA and ANCOVA models were completed using Tukey's Honest Significant Difference test, with *P*-values adjusted for multiple comparisons (Tukey 1977).

In addition, temporal trend assessments were completed for fish health endpoints for *H. arctica* collected in 2020, 2021, 2022, 2023, and 2024 at Milne Port. Trend assessments were completed using GAMs and nonparametric methods. Differences in length-frequency distributions among years were assessed using the K-S test, and *P*-values were adjusted using Holm's correction for multiple comparisons (Holm 1979). Trends in total weight (i.e., whole animal ww) were assessed using a simple additive model. Trends in condition and reproductive endpoints were assessed using GAMs that included a nonlinear effect for year and a linear effect associated with a given covariate (Table 7-4). *Post hoc* assessments of trends were completed using a *post hoc* slope trend test for each

sampling year. Note that trends in relative gonad weights were assessed among 2021, 2022, 2023, and 2024, as gonad tissues were not weighed in 2020.

Table 7-4: Statistical Procedures Used to Evaluate *Hiatella arctica* Health Indicators

Indicator	Endpoint	Response Variable (y)	Covariate (x)	Statistical Procedure
Spatial Comparisons				
Survival	Length-frequency	Total Length	n/a	K-S test
Growth	Total Weight (whole animal wet weight)	Total Wet Weight	n/a	ANOVA
Condition	Condition	Total Wet Weight	Total Length	ANCOVA
	Relative Shell Weight	Dry Shell Weight	Total Length	
Reproduction	Mantle Somatic Index	Gonad Weight	Tissue Wet Weight	ANCOVA
Temporal Comparisons				
Survival	Length-frequency	Total Length	n/a	K-S test[(a)]
Growth	Total Weight (whole animal wet weight)	Total Wet Weight	n/a	GAM
Condition	Condition	Total Wet Weight	Total Length	Covariate-adjusted GAM
	Relative Shell Weight	Dry Shell Weight	Total Length	Covariate-adjusted GAM
Reproduction	Mantle Somatic Index	Gonad Weight	Tissue Wet Weight	Covariate-adjusted GAM

K-S test = Kolmogorov-Smirnov test; ANOVA = analysis of variance; ANCOVA = analysis of covariance; GAM = generalized additive model; n/a = not applicable.

(a) *P*-values were adjusted using Holm's correction for multiple comparisons (Holm 1979) when there were more than two groups being compared (i.e., temporal trends).

7.3.4.2 Tissue Chemistry

The COPCs for the MEEMP fish tissue chemistry component are based on the primary constituents of the Project iron ore (i.e., aluminum, magnesium, and iron), as well as metals with existing regulatory guidelines for fish tissue (i.e., mercury and selenium). Tissue chemistry was evaluated for potential spatial differences between Milne Port and the reference areas in 2024 for Fourhorn Sculpin and *H. arctica*, and for temporal trends among years (i.e., 2018 to 2024) for Arctic Char, Fourhorn Sculpin, and *H. arctica*. Values below DL were estimated using robust regression on order statistics (rROS; Helsel 2012) only if the frequency of data below DL was no more than 50%.

Concentrations of COPCs were compared between sampling areas for Fourhorn Sculpin and *H. arctica*. For aluminum, magnesium, and iron, concentrations were compared using ANOVA. For mercury and selenium, fish length was included as a covariate using ANCOVA.

Trends in aluminum, magnesium, and iron were compared over years using GAMs. Trends in tissue concentrations of mercury and selenium in Arctic Char and Fourhorn Sculpin were compared over years and between sampling areas in 2024 using GAMs, with fish length as a covariate. Trends in COPCs were evaluated using *post hoc* slope trend tests for each sampling year; least square mean metal concentrations were also calculated to support trend assessment.

If length was found not to be significantly related to mercury or selenium concentrations, the covariate was removed and the analytical method was reduced to either a GAM without size adjustment, for evaluation of trends over sampling years, or to an ANOVA, for comparisons among sampling areas in 2024. Post hoc comparisons for ANOVA and ANCOVA were completed using Tukey's Honest Significant Differences test, with *P*-values adjusted for multiple comparisons (Tukey 1977). Significant temporal trends and differences between sampling areas were determined using an α of 0.10 (i.e., $P < 0.1$ was considered significant).

Tissue chemistry data were presented visually using boxplots, where the median value was indicated within each box and the first and third quartiles were represented by the lower and upper bounds of each box, respectively. Lower and upper whiskers were calculated as 1.5 times the interquartile range beyond the first and third quartile. Observations outside the upper and lower whiskers were plotted as individual points. Whiskers were extended to the minimum and maximum values within the dataset that fell within the fences. Where chemistry data included values below DL, at a frequency no greater than 80% of values below DL, boxplots statistics (i.e., median, quartiles, interquartile ranges) were estimated using rROS (Helsel 2012). Values below a DL were not included on boxplots; however, the DLs and the number of samples above DL were indicated on the boxplots. Boxplots were censored at the DL.

7.3.4.3 Testing Assumptions for Statistical Analysis

The assumptions of Gaussian models, including ANOVA, ANCOVA, and Gaussian additive models, are that the residuals of the data, after being fit to the model, are normally distributed and have equal variance among groups. The assumption of normality was assessed using the Shapiro-Wilk test, while Levene's test was used to assess equality of variances. Significant differences in assumptions were evaluated using an α of 0.01 (i.e., *P*-values < 0.01 indicated assumptions were not met). If the assumptions of normality and equality of variance were not met, the data were $\log_{10}$-transformed, and the assumptions were re-assessed. When the assumptions of a statistical model could not be met using a $\log_{10}$ transformation, the nonparametric rank alternative was used and *post hoc* pairwise comparisons were made using a Tukey's method for multiple comparisons on rank values.

In addition to the assumptions of normality and equality of variance, ANCOVA has the additional assumption that the parameter regression slopes are parallel among sampling areas or years. To test this assumption, the ANCOVA was conducted by first fitting separate regression models for each sampling area using a general linear model that included an interaction term between the categorical variable (i.e., sampling area or year) and covariate:

$$\textit{Full ANCOVA model:} \qquad y = \beta_0 + \beta_1(x) + \beta_2(category) + \beta_3(x) \times (category) + \varepsilon$$

where y is the response variable, x is the covariate, $category$ is the categorical indicator variable, and ε is the error term. If the coefficient β_3 of the $(x) \times (category)$ interaction term was not significant (i.e., $P > 0.01$), then the slopes were considered parallel and the ANCOVA proceeded by testing the significance of the coefficient β_2 of the $(category)$ term in the reduced ANCOVA model that fits separate regressions for each categorical group, but with a common regression slope:

$$\textit{Reduced ANCOVA model:} \qquad y = \beta_0 + \beta_1(x) + \beta_2(category) + \varepsilon$$

When a significant interaction was observed, the regression slopes were considered statistically significantly different. When the covariate was a strong predictor of the response variable, and the ANCOVA had a high coefficient of determination ($R^2 > 0.80$), the test for parallel slopes had high power to detect a difference that may

not be practically significant. In this case, when the interaction term in the full ANCOVA model was significant, the slopes were fixed as parallel by fitting the reduced ANCOVA model (because the reduced model explained almost as much [i.e., within 2%] of the variability in the response variable as the full model). In this case, the ANCOVA proceeded under the assumption that the regression slopes between groups were practically similar (Barrett et al. 2010). If slopes could not be considered practically parallel (difference in $R^2 > 0.02$), then endpoints were compared at the least and greatest overlapping covariate values (Section A1.7, Environment Canada 2012). For GAMs that included both linear effects of a covariate and nonlinear effects for time, the assumption of parallel regression slopes for the linear covariate were evaluated as described for ANCOVA models.

Statistical outliers were evaluated using studentized residuals (SR) from the statistical models. A magnitude of 3.5 for the SR was used to identify unusual observations. When an outlier was detected, the validity of the value was examined. If the outlier was determined to be the result of data entry error, the error was corrected; if the outlier was not the result of data entry error and could not be resolved otherwise, the outlier was removed from the analysis and documented.

All statistical comparisons were completed using R version 4.4.1 (R Core Team 2024).

7.3.4.4 Magnitude of Effect

The magnitude of effect for effect endpoints among sampling areas in 2024 was calculated when significant differences in endpoints or tissue concentrations were observed, by expressing the difference as a percentage of the reference mean as follows (Environment Canada 2012):

$$Magnitude\ of\ Effect = \frac{\bar{x}_{Milne} - \bar{x}_{Reference}}{\bar{x}_{Reference}} * 100$$

where $\bar{x}$ is the mean of the endpoint, and *Milne* and *Reference* refer to Milne Port and the appropriate Reference area, respectively. If the statistical comparison was conducted on $\log_{10}$-transformed data, then the magnitude of effect was calculated using geometric means. For effect endpoints analyzed using rank ANOVA, the magnitude of effect was calculated using medians. For effect endpoints analyzed using ANCOVA, the magnitude of effect was calculated using least squares means.

For each finfish health endpoint, magnitudes of effect were compared with the critical effect size (CES) defined in the MDMER for that health endpoint. The CES for age, size-at-age, relative liver weight, and relative gonad weight is ±25% of the reference area mean; the CES for condition (relative total weight) is ±10% of the reference area mean.

For finfish and shellfish tissue chemistry, a CES of 100% was used for tissue chemistry endpoints to differentiate random variability from those differences of potential biological importance (Environment Canada 2012). This approach was taken to validate that differences in concentrations of metals between years were real and less likely to be attributed to analytical variability, limitations of reporting (i.e., low concentrations of target contaminants), or spatial and temporal variation.

7.3.4.5 Power Analysis

Power analyses were performed to determine the minimum detectable difference of fish health and tissue chemistry endpoints. Target sample sizes for fish health endpoints were 20 Fourhorn Sculpin of each sex (40 total) and 40 *H. arctica*, and eight samples (24 total) for tissue chemistry for each fish species (i.e., Arctic Char, Fourhorn Sculpin, *H. arctica*). These sample sizes were used to estimate the sensitivity of future comparisons to detect differences by expressing the minimum detectable difference as a percent change relative to the mean. Type I (α) and Type II (β) error rates were set to 0.10 (Environment Canada 2012). Power analyses were conducted using the power and sample size function in G*Power 3.1.9.7 (Faul et al., 2007).

7.3.5 Guideline Comparison

Tissue concentrations of mercury and selenium for Arctic Char and Fourhorn Sculpin sampled from 2018 to 2024 were compared to applicable tissue quality guidelines. Mercury concentrations were compared to Health Canada's Maximum Levels for Chemical Contaminants in Foods mercury consumption guideline of 0.5 mg/kg ww (Health Canada 2015). Selenium concentrations in Arctic Char and Fourhorn Sculpin were compared to the British Columbia Ministry of Environment (BC MOE) fish tissue guideline of 4 mg/kg dw (BC MOE 2014). Relevant guidelines were not available for other tissue chemistry parameters or for *H. arctica*.

7.3.6 Quality Management

The field and laboratory quality assurance and quality control (QA/QC) procedures described in the following sections were implemented at each stage of the fish survey (i.e., field sampling, data entry, sample shipment, laboratory analyses, data analyses and report preparation) to produce technically sound and scientifically defensible results.

7.3.6.1 Field QA/QC

As part of practices for field operations for this program, the following QA/QC procedures were undertaken:

- Detailed specific work instructions outlining each field task were provided to the field personnel prior to the field programs.
- A pre-field meeting with the field crew and project team lead was conducted to review the specific work instructions so that procedures were understood.
- Samples were collected by experienced personnel and were labelled, preserved, and shipped according to laboratory instructions following WSP standard operating procedures for fish health assessments.
- Fish identification was recorded to species, where possible, with identifications verified using fish field guides.
- Field equipment (e.g., electronic scales and water quality meters) were regularly calibrated according to manufacturer's recommendations.
- Detailed field notes were recorded in pencil in waterproof field notebooks, on waterproof pre-printed field data sheets, or directly entered electronically into an excel spreadsheet.
- Field data (i.e., data sheets, notebooks, and electronic spreadsheets) were checked at the end of each day for completeness and accuracy.

Samples were documented and tracked using chain of custody (COC) forms and receipt of samples by the analytical laboratory was confirmed. Field crews were responsible for managing sample shipment to the analytical laboratories. Prior to sample shipment, field crews confirmed the following:

- Required samples were collected and accounted for.
- COC and analytical request forms were complete and correct.
- Proper sample labelling and documentation procedures were followed.

7.3.6.2 Data Analysis QA/QC

Field-collected data, data sheets, and field notebooks were reviewed for completeness and unexpected values or trends. At minimum, 10% of the field data entered electronically were verified by a second person to identify transcription errors. If any errors were identified, a 100% quality check was implemented. Results of statistical data analyses were reviewed by an independent biologist experienced in statistical analysis. Tables containing data summaries and statistical results were reviewed and values were verified by a second, independent individual.

7.3.6.2.1 Tissue Chemistry

The fish tissue chemistry dataset was visually assessed for outliers using scatterplots, and erroneous values were corrected, if possible (i.e., if values were identified as data entry errors). Statistical analyses and data summary tables were independently reviewed and verified by a second individual experienced in statistical analysis. Internal laboratory QA/QC at BV Labs included analysis of duplicates to evaluate the variance in the measurement, matrix spikes to evaluate sample matrix interference, method blanks to identify laboratory contamination, reagent blanks to determine any analytical contamination, spiked samples to evaluate method accuracy, surrogates to evaluate extraction efficiency, and QC standards used as an independent check of method accuracy. Upon receipt of the tissue chemistry data from BV Labs, standard checks were performed to screen for potential data quality issues by:

- confirming that each requested variable was analyzed
- reviewing the reported units
- reviewing any hold time exceedances
- reviewing internal laboratory QA/QC results

Most results met the laboratory quality acceptance criteria for representativeness (e.g., no detected concentrations in procedural blanks) and accuracy (e.g., spiked blanks, containing a known amount of analyte, within acceptable range). Analysis of reference materials were an exception, where recovery of several metals did not meet acceptance criteria:

- Recovery of antimony, potassium, sodium, and tin exceeded (126 to 161%) acceptance criteria (75 to 125%). Reanalysis yielded similar results. Other quality control parameters were met, and data were considered acceptable.

Visual assessment of tissue chemistry data identified one Arctic Char, two Fourhorn Sculpin, and two *H. arctica* samples with reported concentrations of several metals which were anomalous (i.e., BAFF24UDPFARCH4002, BAFF24UKLKFHSC2005, BAFF24UDPFFHSC1016, BAFF24-REF-HTAR-COMP-METAL-1, BAFF24-REF-HTAR-COMP-METAL-2). Results of laboratory reanalysis confirmed reported concentrations in one Arctic Char sample and one Fourhorn Sculpin sample (BAFF24UDPFARCH4002, BAFF24UKLKFHSC2005); however, for the other Fourhorn Sculpin sample and the two *H. arctica*, re-analysis results indicated heterogeneity of the sample (personal communications, M. McIntosh, 24 December 2024, 3 February 2025). The geometric mean of metal concentrations for this sample determined during initial and re-analysis was chosen for inclusion in the MEEMP tissue chemistry dataset. Where at least one value was reported below DL, the geometric mean was estimated using rROS or nonparametric methods (Helsel 2012). Certificate of analysis forms, including those from sample re-analysis, are provided in Appendix 7E. Overall, the fish tissue chemistry data were considered reliable and representative of site conditions at the time of sampling.

7.3.7 TARP Assessment

As part of applying the Trigger Action Response Plan (TARP; Baffinland 2024), fish health and tissue chemistry performance indicators were screened against condition status/thresholds in 2024, in order to assess risk levels for each performance indicator. The following performance indicators and condition status/threshold values were used when evaluating fish health and tissue chemistry (Table 7-5).

Table 7-5: Marine Environment TARP Framework for Fish Health and Tissue Chemistry (Baffinland 2024)

Component	Performance Indicators [a]	Condition Status/Threshold		
		Low Risk	Moderate Risk	High Risk
Fish Health	Fourhorn Sculpin ■ Age ■ Size-at-age (i.e., total weight at age) ■ Condition as relative total weight (i.e., total weight at total length) ■ Relative liver weight (i.e., liver weight at total weight) ■ Relative gonad weight (i.e., gonad weight at total weight) *Hiatella arctica* ■ Length-frequency analysis ■ Whole animal wet weight ■ Condition as relative total weight (i.e., whole animal wet weight at total length) ■ Relative shell weight (i.e., dry shell weight at total length) ■ Relative gonad weight (i.e., gonad weight at whole animal wet weight)	A statistically significant difference ($P < 0.10$) in effect indicators relative to the reference area and change is in direction that indicates an impairment to fish health and is of magnitude greater than or equal to a defined critical effect size (CES)[b] for that effect indicator.	Confirmed[c] Low Risk Status/ Threshold and mean/median[d] for the same effect indicator is beyond the baseline (FEIS) normal range[e] (if available) or regional normal range[f] AND Is supported by consistent effects in one or more other study components (i.e., water quality, sediment quality and benthic invertebrates) which links the results to the Project.	To be determined based on outcome of moderate response investigations.
Fish Tissue Chemistry	Primary constituents of Project iron ore: ■ Aluminum ■ Magnesium ■ Iron Metals with the potential to bioaccumulate and biomagnify in the food web: ■ Mercury ■ Selenium	A statistically significant difference ($P < 0.1$) in one or more metals concentrations in a sentinel species relative to the reference area, and change is in the direction[g] that indicates impairment to fish health and is of magnitude[h] greater than or equal to the defined CES.	A confirmed[i] Low Risk Status/ Threshold for one or more metals that is also outside the regional normal range[j], and is supported by consistent effects in one or more other study components (i.e., water quality, sediment quality and benthic invertebrates) which links the results to the Project. OR The mean mercury or selenium concentrations (or ≥50% of the individual samples) in Arctic Char tissue chemistry samples are beyond the respective CFIA[k] or BCMOE[l] guidelines.	To be determined based on outcome of moderate response investigations.

CES = critical effect size; FEIS = Final Environmental Impact Statement; CFIA = Canadian Food Inspection Agency; BC MOE = British Columbia Ministry of Environment.

(a) The following endpoints were included or excluded relative to the proposed TARP framework in order to better align the Fish Health and Tissue Chemistry monitoring program with the MDMER EEM program: Fourhorn Sculpin – age (included), length-frequency analysis (excluded).

(b) Definition of a magnitude of change that is indicative of impairment to fish health is based on the critical effect sizes defined by Environment Canada's Metal Mining Effluent Regulations Guidance Document (Environment Canada 2012) and refers to an increase or a decrease in fish health endpoints. Additional critical effect sizes may be defined in the future (i.e., beyond those defined by ECCC).

(c) Confirmed indicates that the Risk Status/ Threshold trigger has been observed in at least two consecutive monitoring programs, whether during the regular monitoring schedule or confirmed through a special study. For fish, the two or more endpoints that triggered the Moderate Risk Status/ Threshold may be in one species (i.e., two endpoints in one species) or two species (i.e., one endpoint in one species, as second endpoint in another species).

(d) The use of the mean or median will depend on the normality of the dataset used to calculate the normal range for each endpoint or tissue chemistry parameter (i.e., if raw or transformed data do not meet the assumptions of normality, the median will be used to provide an estimate of central tendency instead of the mean).

(e) Baseline (FEIS) normal range is based on the FEIS dataset, including operational monitoring data from Milne Inlet and Steensby Inlet, and includes fish length, weight and condition (K).

(f) Regional normal range will be calculated using all available reference area data (i.e., will include annual and ongoing reference area data as it becomes available).

(g) For tissue chemistry, only an increase in concentration will be considered indicative of a toxicological response.

(h) For fish tissue chemistry parameters, the critical effect size is a difference of 100%.

(i) Confirmed indicates that the Action Status/Threshold trigger has been observed in at least two consecutive monitoring programs, whether during the regular monitoring schedule or confirmed through a special study.

(j) Regional normal range is anticipated to include Arctic Char tissue chemistry data from the FEIS (i.e., Milne Inlet and Steensby Inlet) as well as ongoing reference area tissue chemistry data (for Hiatella arctica and Fourhorn Sculpin).

(k) Value is 0.5 mg/kg ww total mercury per CFIA (2014) Canadian Food Inspection Agency Fish Products Standards and Methods Manual: Appendix 3 Canadian Guidelines for Chemical Contaminants and Toxins in Fish and Fish Products. Ottawa, ON.

(l) Protection of aquatic life chronic criteria for fish tissue selenium concentrations are 15.1 mg/kg dw for ovary, 8.5 mg/kg dw for whole body, or 11.3 mg/kg dw for skinless, boneless muscle fillet per US EPA (2021) Technical Support for Fish Tissue Monitoring for Implementation of EPA's 2016 Selenium Criterion Draft, EPA 820-F-16-007, United States Environmental Protection Agency, Office of Water.

7.4 Results

In 2024, fish health data were collected for Arctic Char, Fourhorn Sculpin, and *H. arctica*, and tissue chemistry samples from all three species were submitted for analysis of metals and PAHs. Fish health data collected in 2024 are provided in Appendix 7A, Tables 7A-1 to 7A-3, and summaries of Fourhorn Sculpin and *H. arctica* fish health data collected in previous monitoring years are presented in Appendix 7A, Tables 7A-4 to 7A-5. Taxonomic results for stomach contents analysis from the laboratory are provided in Appendix 7A in Tables 7A-6 and 7A-7. Summaries of samples submitted for tissue chemistry analysis during current and past MEEMP studies are presented in Appendix 7B, Tables 7B-1 and 7B-2. Tissue chemistry data collected in 2024 are provided in Appendix 7B, Tables 7B-3 to 7B-8 and summaries of tissue chemistry data collected in previous monitoring years are presented in Appendix 7B, Tables 7B-9 to 7B-11. Boxplots summarizing tissue chemistry results are presented in Appendix 7C. Supporting environmental information for the reference areas are provided in Appendix 7D, and certificate of analysis forms are provided in Appendix 7E. Fish health and tissue chemistry data collected in previous sampling years are also provided in past MEEMP Reports (e.g., Golder 2019, 2020, 2021; WSP 2023, 2024).

7.4.1 Fish Health

7.4.1.1 Arctic Char

A total of 13 incidental mortalities of Arctic Char from Milne Inlet were processed in 2024 as part of the fish community assessment (Chapter 6.0), including 11 adults (eight females, three males) and two juveniles. Processed Arctic Char ranged in age from 7 to 16 years, in total length from 271 to 551 mm, and in weight from 192 to 3,111 g. Condition factor ranged from 0.94 to 2.63. Fish were considered to be in good health, with five fish being observed with parasite infections.

7.4.1.1.1 Survival - Age

Ages of incidental mortalities of Arctic Char were comparable between 2021, 2022, 2023, and 2024 (Figure 7-2). Ages ranged from 4 to 17 years in 2021, 4 to 22 years in 2022, 4 to 25 years in 2023, and 7 to 16 years in 2024, with maximum ages reported in 2024 being similar to those reported in previous years. Median ages sampled in each sampling year were also similar (2021: 8.5 years; 2022: 11.5 years; 2023: 9.0 years; 2024: 10.0 years; Figure 7-2).

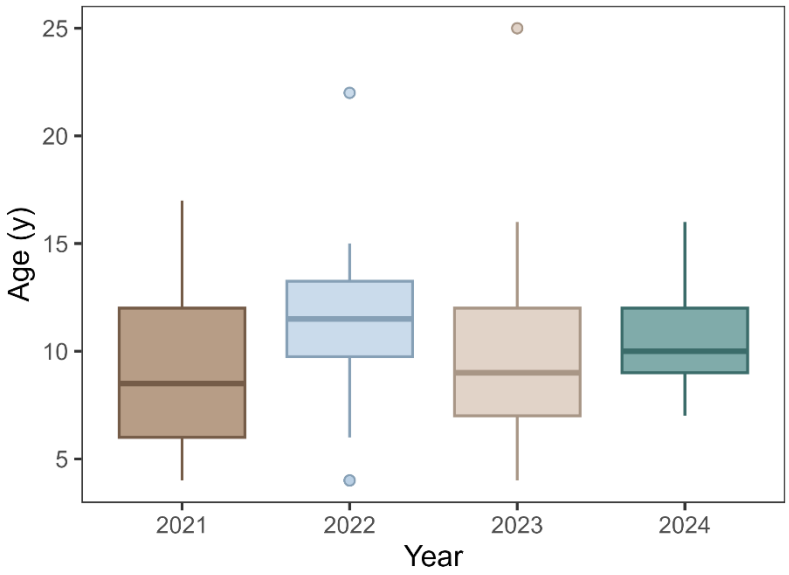


Figure 7-2: Boxplots of Ages of Arctic Char Incidental Mortalities Sampled from Milne Inlet, 2021 to 2024

7.4.1.1.2 Stomach Contents

Stomach contents of 10 incidental mortalities of Arctic Char from Milne Inlet were analyzed (Figure 7-3). Ten unique taxonomic groups of prey items were identified, including: five families of amphipods, one species of calanoid copepod, unidentified fish, two taxa of mysids, and unidentified crustaceans. The dominant prey item by weight consumed by Arctic Char in 2024 was crustaceans (98%), comprised of unidentified crustaceans (48%), amphipods (43%), mysids (5%), and calanoid copepods (<1%). Unidentified fish comprised 2% of prey consumed, by weight.

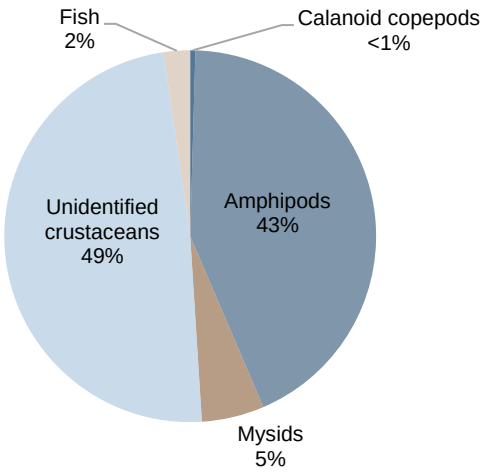
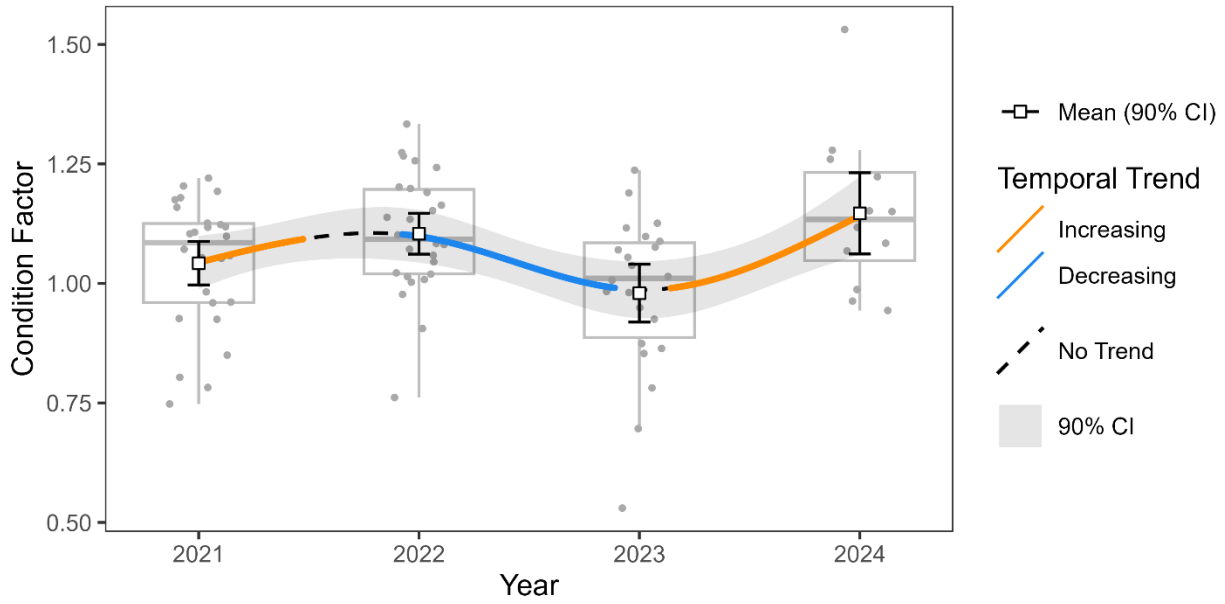


Figure 7-3: Relative Stomach Contents by Weight from Arctic Char Incidental Mortalities Sampled from Milne Inlet, 2024

7.4.1.1.3 Temporal Comparisons

7.4.1.1.3.1 Condition Factor

Condition factor of Arctic Char was compared between 2021, 2022, 2023, and 2024 (Table 7-6; Figure 7-4) and data for all sexes and life stages were combined as described in Section 7.3.3.1. Condition factor ranged from 0.75 to 1.22 in 2021, from 0.76 to 1.33 in 2022, 0.53 to 1.24 in 2023, and 0.94 to 2.63 in 2024. Condition factor varied significantly over sampling years ($F_{2.89,2.99}$ = 4.025, P = 0.008), but with no consistent temporal trends. Variation over sampling years appeared to be due to natural variability.



One fish sampled in 2024 (FIN: BAFF24UIPFARCH4006) was omitted as an outlier.
CI = confidence interval.

Figure 7-4: Temporal Trends in Condition Factor for Arctic Char Captured throughout Milne Inlet, 2021 to 2024

Table 7-6: Descriptive Statistics for Arctic Char Biometrics Processed from Milne Inlet, 2021 to 2024

Parameter	Arctic Char						
	n	Min	Max	Median	Mean	SD	SE
2021[a]							
Total Length (mm)	26	145	649	393	387	106.1	20.8
Fork Length (mm)	-	-	-	-	-	-	-
Total Weight (g)	26	25	2,139	660	712	478.9	93.9
Condition Factor	26	0.75	1.22	1.09	1.04	0.14	0.027
Age (y)	26	4	17	8.5	9.5	3.8	0.75
2022[b]							
Total Length (mm)	-	-	-	-	-	-	-
Fork Length (mm)	26	219	700	487	474	112.4	22.05
Total Weight (g)	26	140	3,760	1,420	1,461	868.7	170.4
Condition Factor	26	0.76	1.33	1.09	1.10	0.13	0.025
Age (y)	24	4	22	11.5	11.2	4.0	0.81
2023[a]							
Total Length (mm)	22	313	647	427	450	91.5	19.5
Fork Length (mm)	-	-	-	-	-	-	-
Total Weight (g)	22	319	2,015	878	953	497.9	106.1
Condition Factor	22	0.53	1.24	1.01	0.98	0.16	0.035
Age (y)	21	4	25	9.0	10.0	4.8	1.0
2024[a]							
Total Length (mm)	13	271	551	400	406	78.9	21.9
Fork Length (mm)	-	-	-	-	-	-	-
Total Weight (g)	13	192	3,111	736	1034	889.1	246.6
Condition Factor	13	0.94	2.63	1.15	1.26	0.44	0.122
Age (y)	13	7	16	10.0	10.6	2.8	0.77

n = sample size; Min = minimum; Max = maximum; SD = standard deviation; SE = standard error.

(a) Fork length measurements were not collected in 2021, 2023, or 2024.

(b) Total length measurements were not collected in 2022.

7.4.1.2 Fourhorn Sculpin

A total of 40 Fourhorn Sculpin were processed from Milne Port during the 2024 fish health assessment, including 20 females and 20 males. A total of 39 Fourhorn Sculpin were processed from the Koluktoo Bay, including 20 females and 19 males. Summary statistics for processed fish are provided in Table 7-7. Length-frequency distributions for female and male Fourhorn Sculpin from Milne Port and Koluktoo Bay sampled in 2024 are presented in Figure 7-5. Length-weight relationships for Fourhorn Sculpin sampled in 2024 are presented in Figure 7-6.

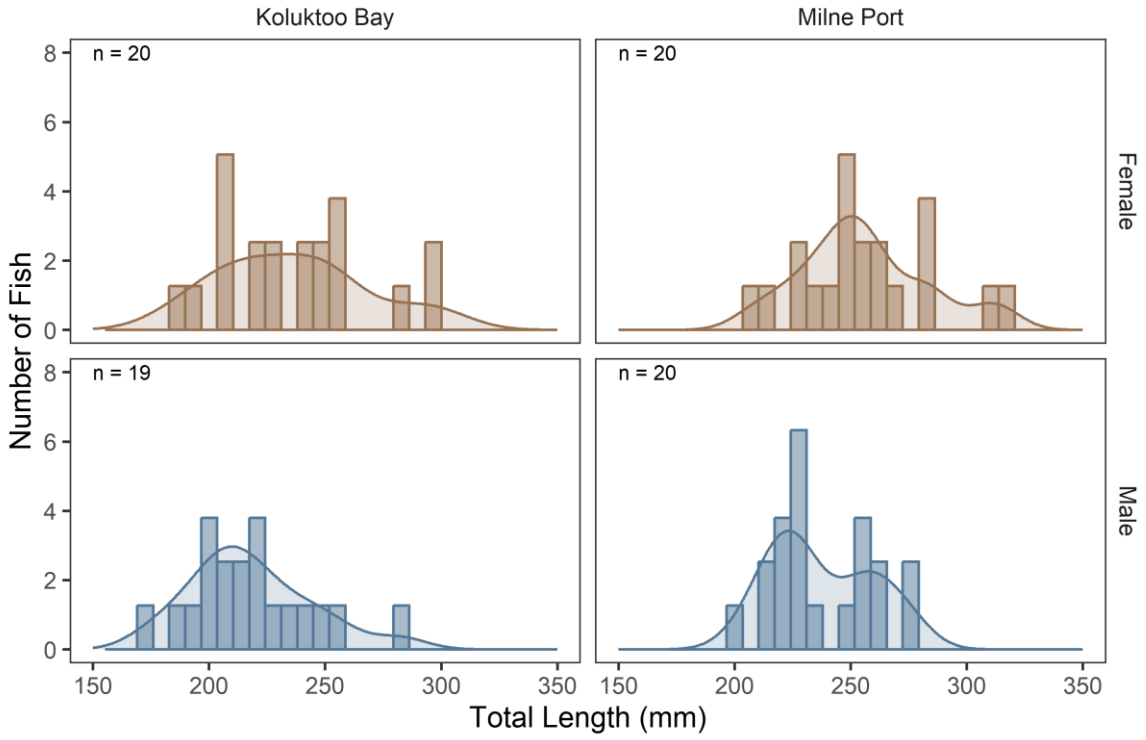
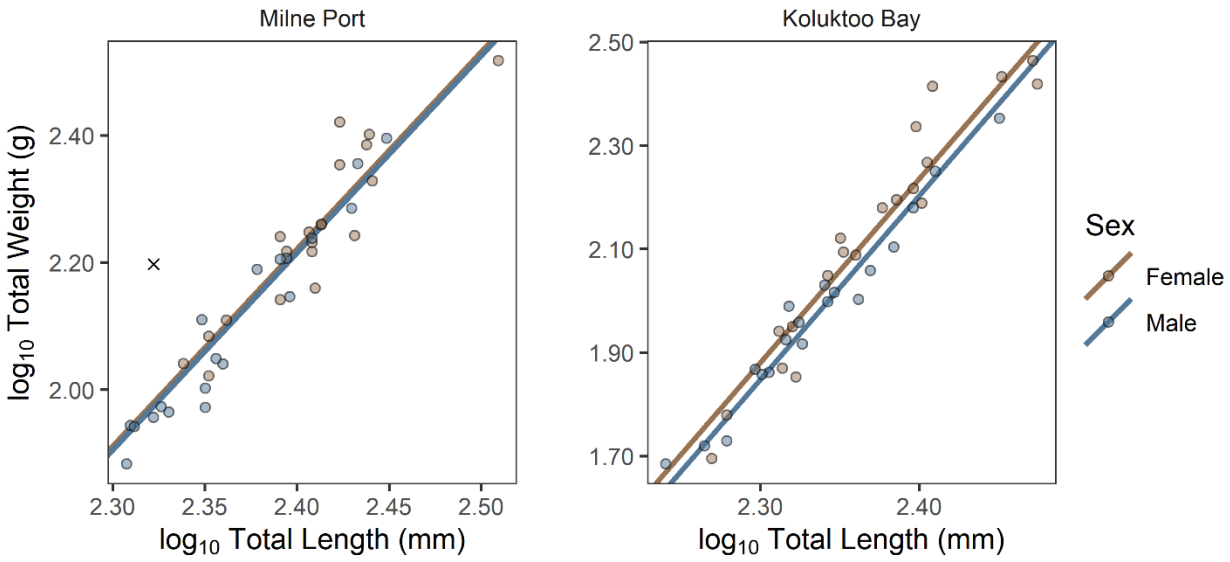


Figure 7-5: Length-Frequency Distributions of Female (Top) and Male (Bottom) Fourhorn Sculpin Sampled from Milne Port (Right) and Koluktoo Bay (Left), 2024



x = outlier omitted from length-weight relationship characterization.

Figure 7-6: Condition (Length-Weight Relationship) for Female and Male Fourhorn Sculpin Sampled from Milne Port (Left) and Koluktoo Bay (Right), 2024

Table 7-7: Descriptive Statistics for Fourhorn Sculpin Fish Health Endpoints Processed from Milne Port and Koluktoo Bay, 2024

Parameter	Milne Port							Koluktoo Bay						
	n	Min	Max	Median	Mean	SD	SE	n	Min	Max	Median	Mean	SD	SE
Female														
Total Length (mm)	20	208	314	252	256	27.8	6.22	20	186	298	233.5	236.2	32.0	7.16
Total Weight (g)	20	80	379	168	184	77.7	17.4	20	50	291	142	152	74.7	16.7
Carcass Weight (g)	20	41.2	197	90	97	41.1	9.18	20	27.4	153	75	80	37.6	8.40
Condition Factor	20	0.87	1.28	1.01	1.04	0.10	0.023	20	0.77	1.55	1.06	1.06	0.19	0.042
Liver Weight (g)	20	2.363	17.99	7.353	8.210	4.452	0.995	20	1.213	14.05	6.176	7.004	4.022	0.899
LSI	20	2.56	7.21	4.35	4.30	1.08	0.24	20	2.11	7.03	4.39	4.44	1.30	0.29
Gonad Weight (g)	20	1.988	16.06	5.830	7.055	3.867	0.865	20	1.649	13.42	5.638	6.116	3.339	0.747
GSI	20	2.40	6.13	3.39	3.70	0.96	0.22	20	2.52	6.35	3.83	3.97	0.90	0.20
Age (y)	20	4	11	6.5	6.6	1.7	0.38	20	4	10	7	6.9	1.7	0.37
Male														
Total Length (mm)	20	203	276	229	238	21.9	4.89	19	174	282	212	218	26.6	6.10
Total Weight (g)	20	78	216	119	132	40.3	9.0	19	48	226	98	102	44.3	10.2
Carcass Weight (g)	20	44.5	115	67	75	22.3	4.99	19	26.3	134	50.5	57.0	26.4	6.05
Condition Factor	20	0.87	1.16	0.94	0.96	0.073	0.016	19	0.78	1.09	0.94	0.93	0.08	0.018
Liver Weight (g)	20	1.407	6.929	3.111	3.442	1.353	0.303	19	0.937	7.526	2.964	3.478	1.932	0.443
LSI	20	1.80	3.67	2.68	2.59	0.55	0.124	19	1.81	4.98	2.94	3.28	1.03	0.24
Gonad Weight (g)	20	1.690	7.552	3.959	4.505	2.003	0.448	19	1.788	8.458	3.284	3.653	1.595	0.366
GSI	20	1.70	4.86	3.49	3.32	0.82	0.18	19	2.52	4.93	3.48	3.68	0.76	0.17
Age (y)	20	5	9	6	6.4	1.3	0.29	19	4	12	6	6.4	2.1	0.49

Data for previous monitoring years presented in Appendix 7A, Table 7A-4.

n = sample size; Min = minimum; Max = maximum; SD = standard deviation; SE = standard error; GSI = gonadosomatic index; LSI = liver somatic index

7.4.1.2.1 Spatial Comparisons

7.4.1.2.1.1 Survival – Age

Female ages ranged from 4 to 11 years in Milne Port and from 4 to 10 years in Koluktoo Bay, while male ages ranged from 5 to 9 years in Milne Port and from 4 to 12 years in Koluktoo Bay (Table 7-7; Figure 7-7). Mean ages for female and male Fourhorn Sculpin did not differ significantly between sampling areas (Table 7-8).

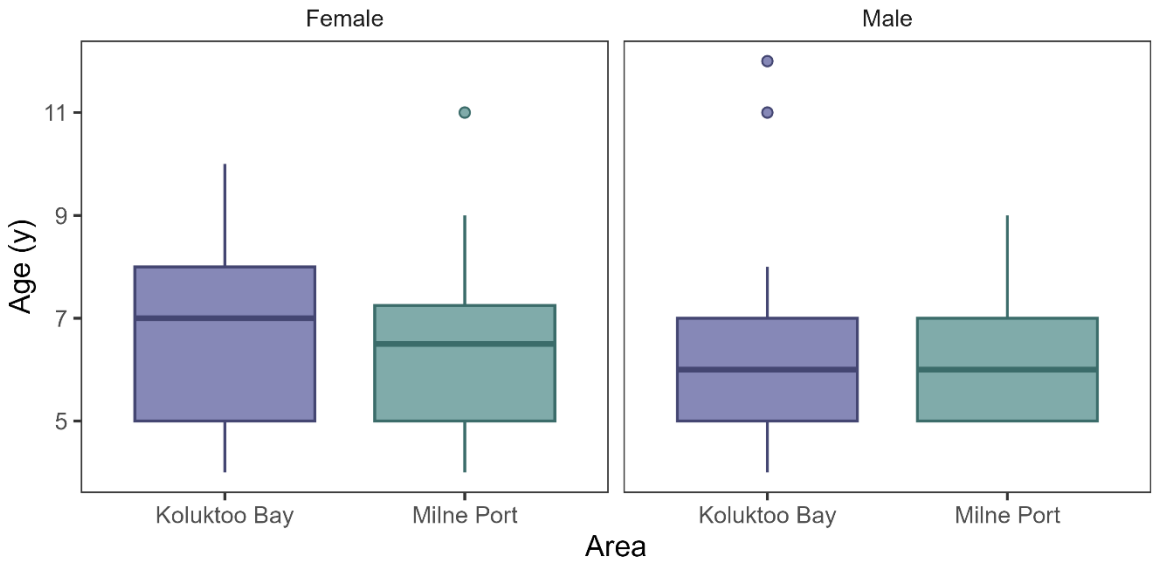


Figure 7-7: Boxplots of Ages of Female and Male Fourhorn Sculpin Sampled from Milne Port and Koluktoo Bay, 2024

7.4.1.2.1.2 Growth – Size-at-Age

For both female and male Fourhorn Sculpin, size-at-age was significantly greater in Milne Port compared to Koluktoo Bay (Figure 7-8; Table 7-8). Observed effect sizes for female and male Fourhorn Sculpin (36%, 30%, respectively) exceeded the CES (±25%). However, the direction of the observed effects (i.e., higher in Milne Port) did not indicate an impairment of the health of female or male Fourhorn Sculpin.

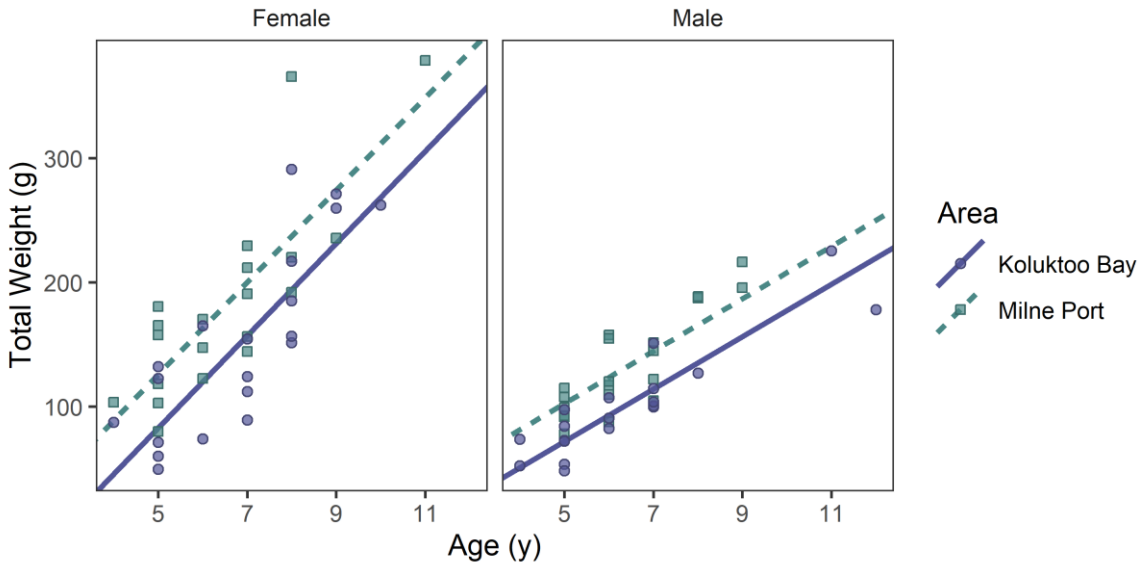


Figure 7-8: Size-at-Age Relationships for Female and Male Fourhorn Sculpin Sampled from Milne Port and Koluktoo Bay, 2024

7.4.1.2.1.3 Condition – Relative Total Weight and Relative Liver Weight

Condition factor for females ranged from 0.87 to 1.28 in Milne Port, and 0.77 to 1.55 in Koluktoo Bay; for males, condition factor ranged from 0.87 to 1.16 in Milne Port, and 0.78 to 1.09 in Koluktoo Bay (Table 7-7). Relative total weight differed significantly between areas for female Fourhorn Sculpin, but did not differ significantly between areas for male Fourhorn Sculpin (Figure 7-9; Table 7-8). For female Fourhorn Sculpin, relative total weight was significantly lower in Milne Port relative to Koluktoo Bay: the observed effect size (7%) was less than the CES (±10%).

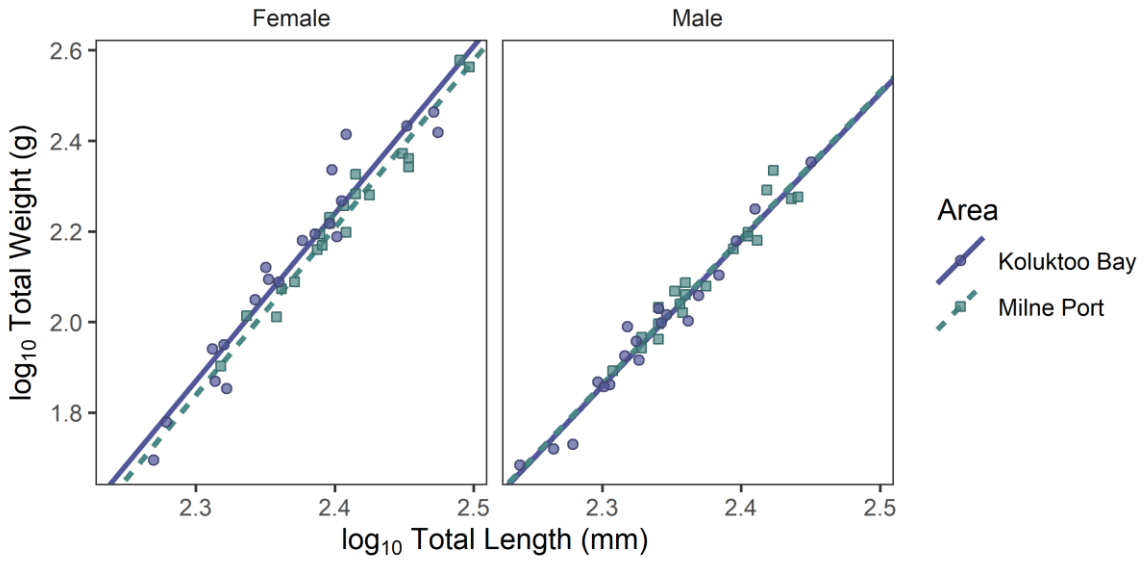


Figure 7-9: Weight-at-Length Relationships for Female and Male Fourhorn Sculpin Sampled from Milne Port and Koluktoo Bay, 2024

The LSI for female Fourhorn Sculpin ranged from 2.56 to 7.21 in Milne Port and from 2.11 to 7.03 in Koluktoo Bay; male LSI ranged from 1.80 to 3.67 in Milne Port and 1.81 to 4.98 in Koluktoo Bay (Table 7-7). In contrast to relative total weight, relative liver weight differed significantly between areas for male Fourhorn Sculpin but not for female Fourhorn Sculpin (Table 7-8; Figure 7-10). For male Fourhorn Sculpin, relative liver weight was significantly lower in Milne Port relative to Koluktoo Bay: the observed effect size (-26%) was greater than the CES (±25%; Table 7-8).

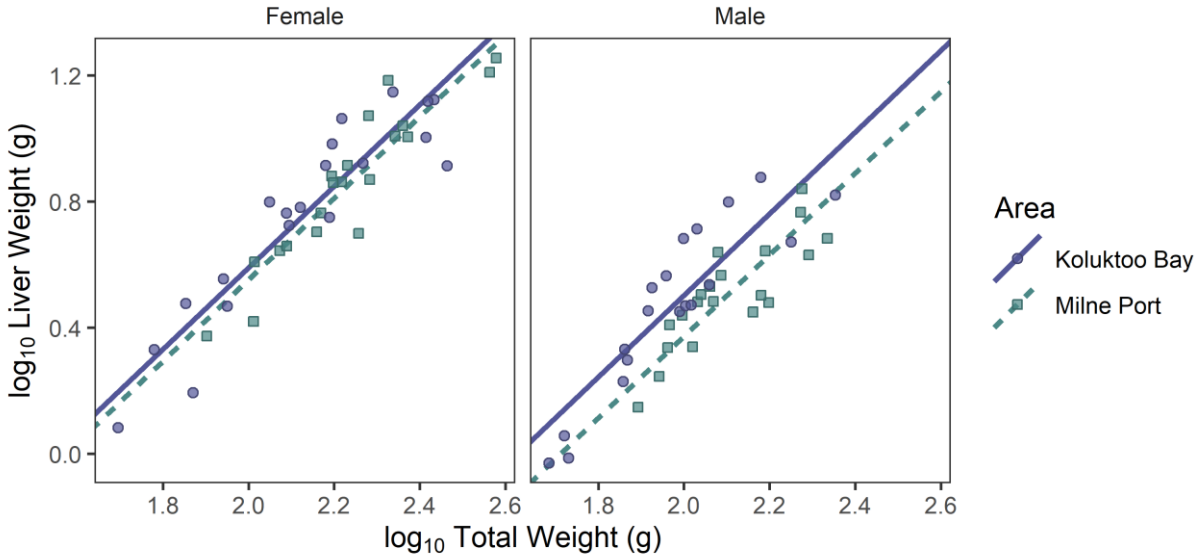


Figure 7-10: Relative Liver Weight for Female and Male Fourhorn Sculpin Sampled from Milne Port and Koluktoo Bay, 2024

7.4.1.2.1.4 Reproduction – Relative Gonad Weight

For females, GSI ranged from 2.40 to 6.13 in Milne Port, and 2.52 to 6.35 in Koluktoo Bay; for males, GSI ranged from 1.70 to 4.86 in Milne Port, and 2.52 to 6.35 in Koluktoo Bay (Table 7-7). Relative gonad weight did not differ among sampling areas for female or male Fourhorn Sculpin (Figure 7-11; Table 7-8).

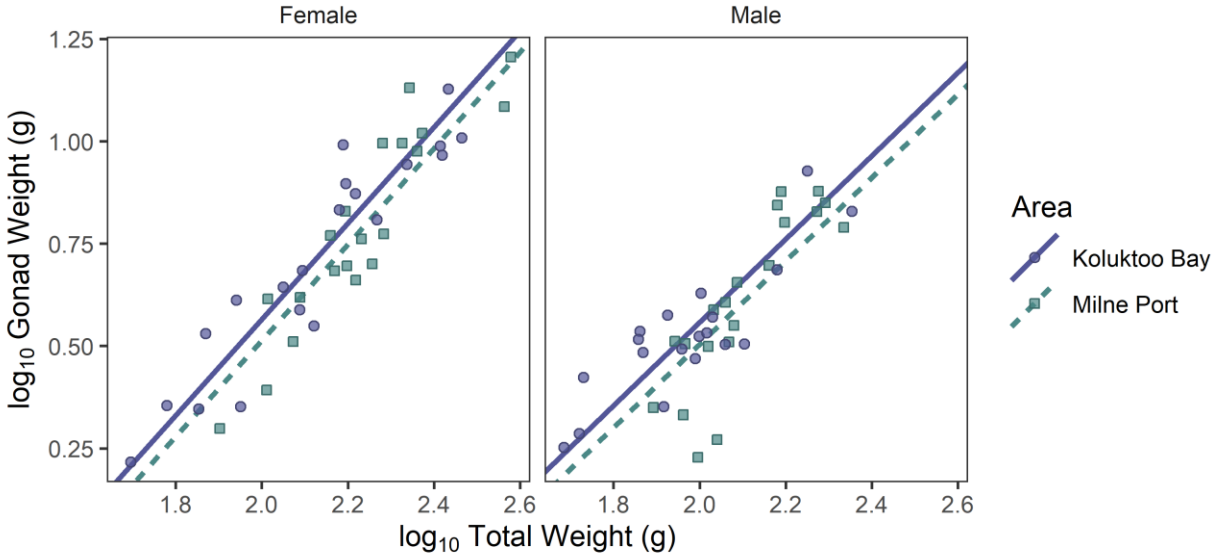


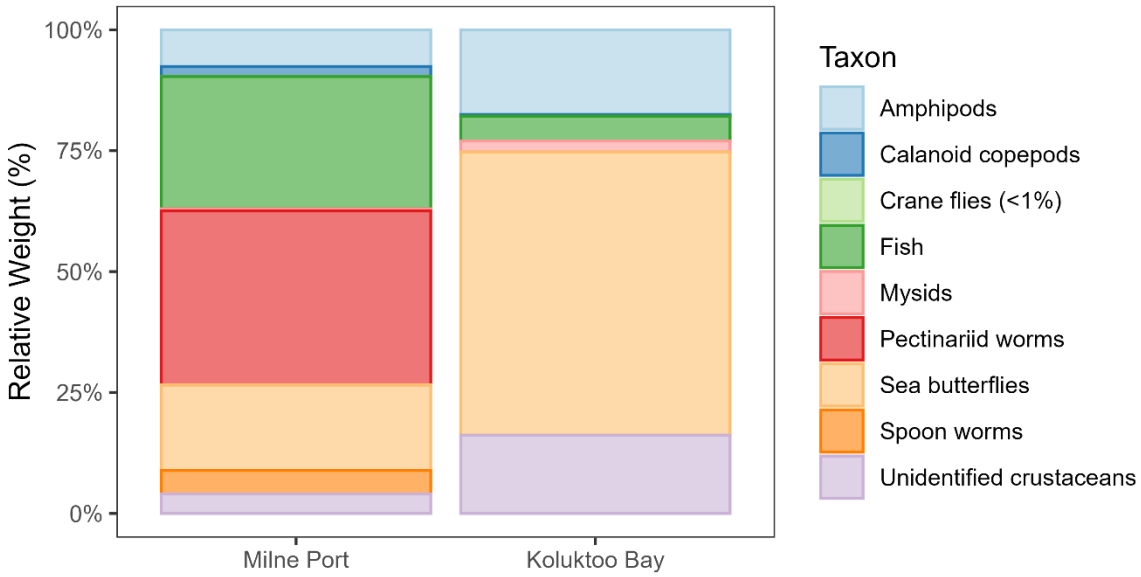
Figure 7-11: Relative Gonad Weight for Female and Male Fourhorn Sculpin Sampled from Milne Port and Koluktoo Bay, 2024

7.4.1.2.1.5 Stomach Contents

A total of 50 stomachs collected from Fourhorn Sculpin were analyzed for stomach contents: 25 from fish captured in Milne Port and 25 from fish captured in Koluktoo Bay. Stomach fullness ranged from 0% to 100% by volume. Eight stomachs from Fourhorn Sculpin collected from Koluktoo Bay and two stomachs from Fourhorn Sculpin collected in Milne Port were empty.

Relative stomach contents differed among sampling areas (Figure 7-12) reflecting variability in diets. In Milne Port, dominant prey items by weight for Fourhorn Sculpin included pectinariid worms (trumpet worms of the family Pectinariidae; 36%), fishes (27%), mainly comprising sand lance species (family Ammodytidae), and sea butterflies (*Limacina* spp.; 18%). Minor prey items by weight included amphipods (7.6%), spoon worms (class Polychaeta, subclass Echiura; 4.9%), unidentified crustaceans (4.1%), calanoid copepods (2.0%), mysids (0.4%), and crane flies (order Diptera, superfamily Tipuloidea; 0.1%).

In contrast, in Koluktoo Bay, the dominant prey item by weight for Fourhorn Sculpin was sea butterflies (59%). Minor prey items by weight included amphipods (18%), unidentified crustaceans (16%), unidentified fishes (5.2%), mysids (2.3%), and calanoid copepods (0.3%). Differences in stomach contents likely reflect differences in habitat and prey availability between the Milne Port and Koluktoo Bay. Site characterization surveys indicated a predominance of boulder habitat around Milne Port, whereas habitats in Koluktoo Bay were more variable, including boulders, cobble reefs, and sand bars. These habitat differences likely result in differences in prey items abundance and availability, thus driving differences in stomach contents of Fourhorn Sculpin among sampling areas.



Note: Amphipods include crustaceans in the order Amphipoda. Calanoid copepods include crustaceans in the genus *Calanus*. Crane flies include insects in the order Diptera, superfamily Tipuloidea. Mysids include crustaceans in the order Mysida. Pectinariid worms include polychaete worms in the family Pectinariidae. Sea butterflies include snails in the genus *Limacina*. Spoon worms include polychaete worms in the subclass Echiura.

Figure 7-12: Relative Stomach Contents by Weight from Fourhorn Sculpin Sampled from Milne Port and Koluktoo Bay, 2024

Table 7-8: Results of Statistical Comparisons Between Milne Port Area and Koluktoo Bay for Fourhorn Sculpin, 2024

Effect Indicator	Endpoint[a]	Covariate	Statistical Test	*n* Outlier	Sample Size		Least Squares Mean		Area *P*-value	Magnitude of Effect (%)[b]	Critical Effect Size (%)[c]	Direction of Effect	Power Analysis[d]	
					Milne Port	Koluktoo Bay	Milne Port	Koluktoo Bay					Minimum Detectable Difference[e]	Sensitivity[f]
Female														
Survival	Age	-	ANOVA	0	20	20	7	7	0.576	-	25%	-	100%	1.83
Growth	Size-at-Age[g]	Age	$ANCOVA_{log10}$	0	20	20	2.25	2.11	**0.002**	**36%**	25%	Milne > Ref	93% / 77%	19.44 / 77.1
Condition (Energy Storage)	Relative Total Weight	Total Length	$ANCOVA_{log10}$	0	20	20	2.16	2.20	**0.067**	-7%	10%	Milne < Ref	89% / 83%	23.13 / 14.4
	Relative Liver Weight	Total Weight	$ANCOVA_{log10}$	0	20	20	0.785	0.823	0.295	-	25%	-	97% / 87%	1.803 / 1.713
Reproduction	Relative Gonad Weight	Total Weight	$ANCOVA_{log10}$	0	20	20	0.725	0.776	0.120	-	25%	-	99% / 92%	1.576 / 1.235
Male														
Survival	Age	-	$ANOVA_{rank}$[g]	0	20	7	6	7	0.610	-	25%	-	100%	1.67
Growth	Size-at-Age	Age	ANCOVA	0	20	7	144	95.9	**<0.001**	**30%**	25%	Milne > Ref	100%	23.35
Condition (Energy Storage)	Relative Total Weight	Total Length	$ANCOVA_{log10}$	1	19	7	2.10	2.08	0.751	-	10%	-	100% / 99%	8.38 / 10.1
	Relative Liver Weight	Total Weight	$ANCOVA_{log10}$	0	20	7	0.654	0.680	**0.002**	**-26%**	25%	Milne < Ref	97% / 85%	1.249 / 0.495
Reproduction	Relative Gonad Weight	Total Weight	$ANCOVA_{log10}$	0	20	7	0.547	0.550	0.163	-	25%	-	97% / 85%	1.143 / 0.957

Notes: Statistically significant values and magnitudes of effect exceeding the CES are indicated in **bold**. Supporting information for statistical model results are provided in Appendix 7A, Table 7A-8. Statistical outliers are provided in Appendix 7A, Table 7A-12.

(a) For model components, please see Table 7-3.

(b) The magnitude of effect is calculated as the difference in least squares mean values between Milne Port and Koluktoo Bay: (Milne - Koluktoo) / Koluktoo × 100% (Environment Canada 2012).

(c) Critical Effect Size (CES) expressed as a percentage of the Koluktoo Bay mean.

(d) Power Analysis values presented on measurement scale. Log_{10}-transformed models include values for differences below and above the Koluktoo Bay mean.

(e) Minimum detectable difference expressed as unit difference from the Koluktoo Bay mean.

(f) Sensitivity is the minimum detectable difference expressed as a percent change in the Koluktoo Bay mean.

(g) Rank ANOVA proceeded despite significant Shapiro-Wilk test based on visual inspection of the data.

n = number; y = year; P-value = probability value; log_{10} = log_{10}-transformed data; rank = rank-transformed data; ANOVA = analysis of variance; ANCOVA = analysis of covariance; n/a = not applicable.

7.4.1.2.1.6 Abnormalities

Few external or internal abnormalities were observed in Fourhorn Sculpin sampled from Milne Port or Koluktoo Bay (Table 7-9). With respect to external abnormalities, minor fin erosion was observed for 5% of fish the sampled, and 35% of fish were infected with external parasites. These included parasitic cysts embedded in their fins or skin or parasitic copepods in the gills. Fin erosion and parasites were most prevalent in Milne Port.

Internal abnormalities primarily consisted of variation in liver colour and parasites. Light or pale livers were observed in similar numbers of fish from both sampling areas, including two females and four males from Milne Port and three females and one male from Koluktoo Bay. Liver colour is closely tied to the level of blood perfusion (i.e., fresh circulating blood), and, therefore, the time elapsed between sacrifice and observation will influence the liver colour endpoint. Further, colour is subject to observer bias and is considered a less reliable indicator as a result. Internal parasites observed in Fourhorn Sculpin consisted of cysts embedded within the body cavity (i.e., on the stomach and digestive organs) or within the muscle tissue, which were present in one female and two males from Milne Port and one male from Koluktoo Bay.

Table 7-9: Number and Description of External and Internal Abnormalities Observed in Fourhorn Sculpin Sampled from Milne Port and Koluktoo Bay, 2024

Parameter	Milne Port		Koluktoo Bay	
	Female (n = 20)	Male (n = 20)	Female (n = 20)	Male (n = 19)
External				
Body Deformities	0	0	0	0
Eyes	0	0	0	0
Skin	0	0	0	0
Thymus	0	0	0	0
Opercula	0	0	0	0
Gills	0	0	0	0
Pseudobranchs	0	0	0	0
Fins	3	1	0	0
Vent	0	0	0	0
Parasitization[(a)]	12	9	4	3
Internal				
Liver[(b)]	2	4	3	1
Spleen	0	0	0	0
Gall bladder	0	0	0	0
Gonad	0	0	0	0
Kidney	0	0	0	0
Parasitization[(c)]	1	2	0	1

(a) External parasitization observations included cysts embedded in the fins and skin, as well as parasitic copepods in the gills.

(b) Liver abnormalities included pale coloration, focal discolouration, or general discolouration. Pale liver colouration/general or focal discolouration is typically associated with a lack of perfusion following sacrifice and cessation of the heart beating; pale or discoloured livers were noted and documented but are not considered further.

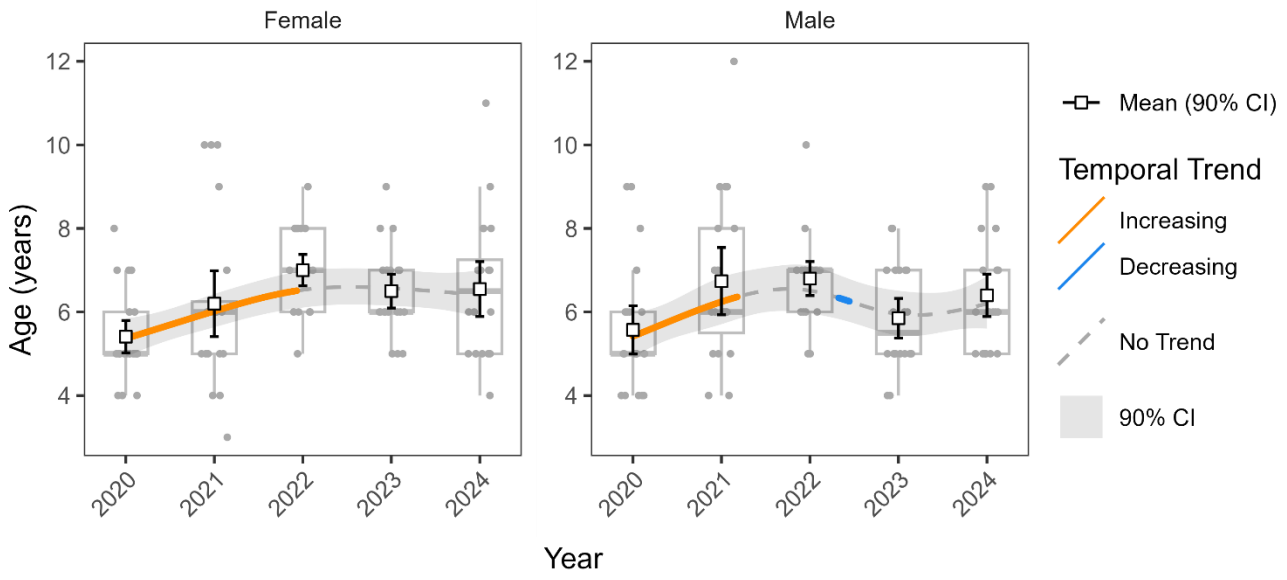
(c) Internal parasitization observations included cysts on internal organs and in the muscle.

- = no comments.

7.4.1.2.2 Temporal Comparisons

7.4.1.2.2.1 Survival – Age

Mean ages for female Fourhorn Sculpin varied significantly over sampling years, increasing from 2020 to 2022 and then stabilizing from 2022 to 2024 (Table 7-10; Figure 7-13). Similar trends were observed for male Fourhorn Sculpin with mean ages increasing from 2020 to pre-2022 and then decreasing from 2022 to 2023, and then stabilizing 2023 to 2024 (Table 7-10; Figure 7-13).

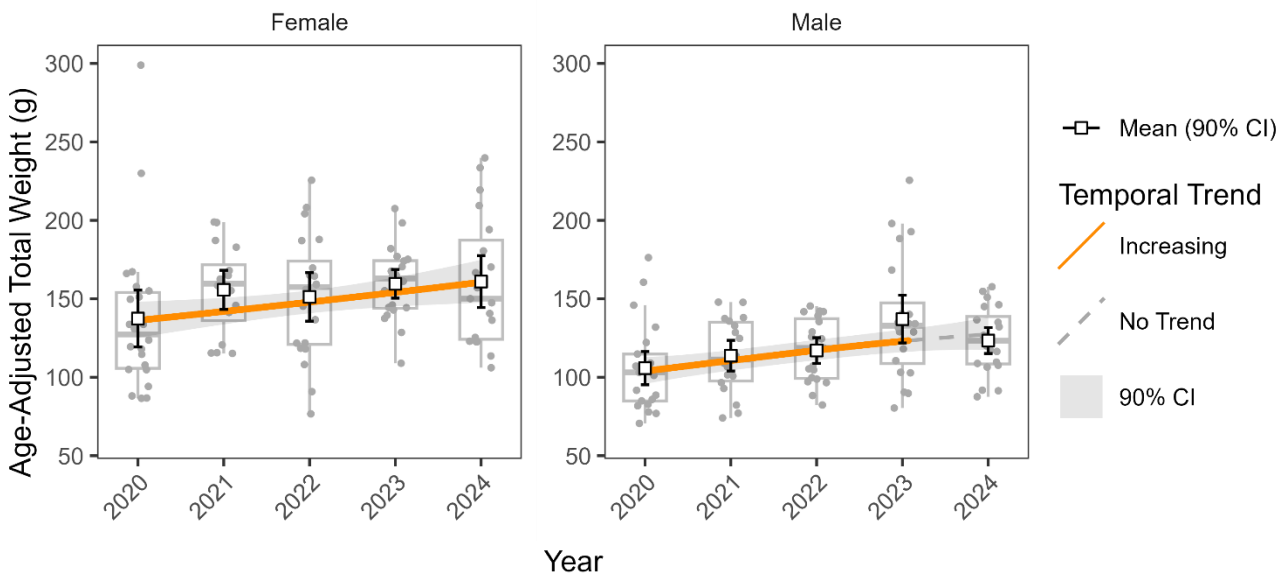


CI = confidence interval.

Figure 7-13: Temporal Trends in Ages of Female and Male Fourhorn Sculpin Sampled from Milne Port, 2020 to 2024

7.4.1.2.2.2 Growth – Size-at-Age

For female Fourhorn Sculpin, mean size-at-age varied significantly over sampling years, increasing from 2020 to 2024 (Table 7-10; Figure 7-14). Similarly, for male Fourhorn Sculpin, size-at-age increased significantly from 2020 to 2023 and then remained relatively stable from 2023 to 2024 (Table 7-10; Figure 7-14).



Notes: Female and male total weights adjusted to sex-specific mean ages (female: 6.1 years; male: 6.0 years). One female sampled in 2020 (FIN: BAFF20UMLNFHSC1023) was omitted as an outlier.

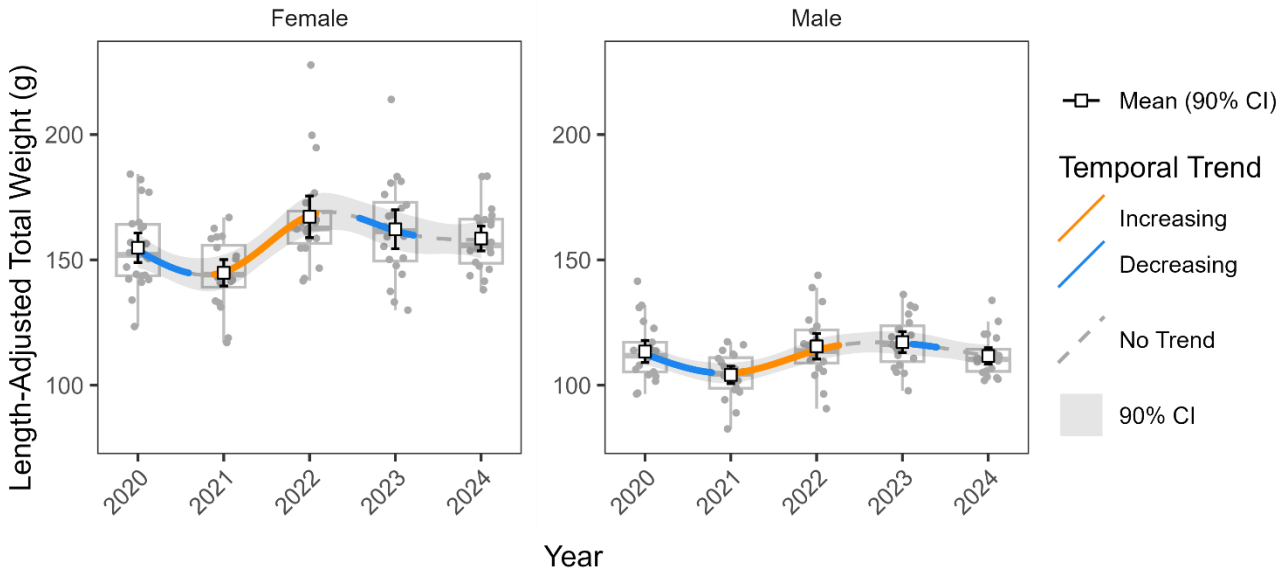
CI = confidence interval.

Figure 7-14: Temporal Trends in Age-Adjusted Total Weight (Size-at-Age) for Female and Male Fourhorn Sculpin Sampled from Milne Port, 2020 to 2024

7.4.1.2.2.3 Condition – Relative Total Weight and Relative Liver Weight

Relative total weight varied significantly across sampling years for both sexes, following similar trends (Table 7-10; Figure 7-15). For both female and male Fourhorn Sculpin, trends in mean relative total weight fluctuated over time (i.e., followed a roughly sinusoidal pattern), suggesting observed trends may be attributable to natural variability over time (Figure 7-15).

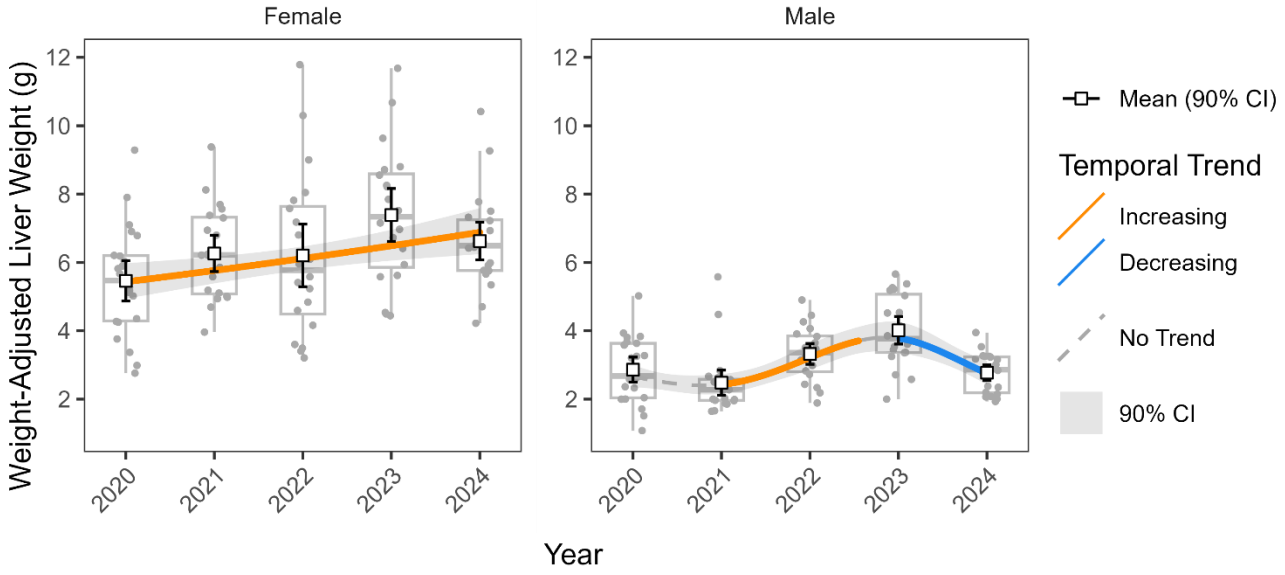
Relative liver weight varied significantly across sampling years for both female and male Fourhorn Sculpin (Table 7-10; Figure 7-16), but trends differed by sex. For female Fourhorn Sculpin, mean relative liver weight increased consistently between 2020 to 2024 by approximately 6.0% per year (Table 7-10; Figure 7-16). In contrast, for male Fourhorn Sculpin, relative liver weight showed no consistent temporal trends, instead fluctuating over time (Figure 7-16).



Notes: Female and male total weights adjusted to sex-specific mean total lengths (female: 247 mm; male: 230 mm). One male sampled in 2023 (FIN: BAFF23UDPFFHSC1007) was omitted as an outlier.

CI = confidence interval.

Figure 7-15: Temporal Trends in Length-Adjusted Total Weight (Relative Total Weight) for Female and Male Fourhorn Sculpin Sampled from Milne Port, 2020 to 2024



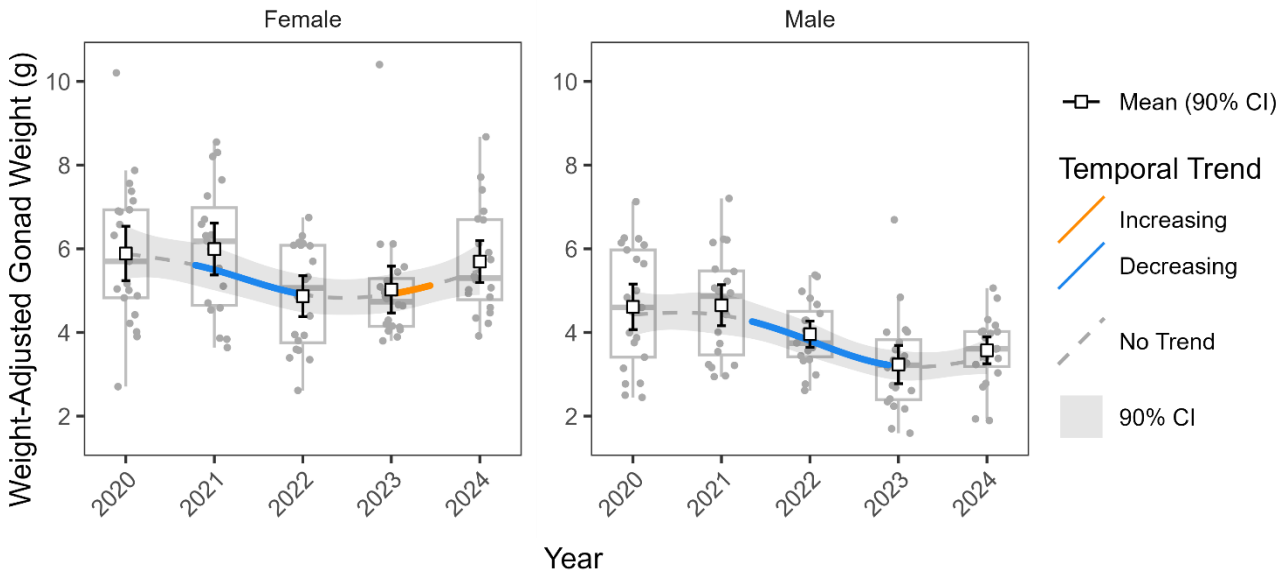
Notes: Female and male liver weights adjusted to sex-specific mean total weights (female: 154 g; male: 117 g).

CI = confidence interval.

Figure 7-16: Relative Liver Weight for Female and Male Fourhorn Sculpin Sampled from the Milne Port Area, 2020 to 2024

7.4.1.2.2.4 Reproduction – Relative Gonad Weight

Trends in relative gonad weight were similar among female and male Fourhorn Sculpin (Table 7-10). For females, relative gonad weight decreased from 2021 to 2022, increased from 2023 to 2024, and otherwise remained stable over time. For males, relative gonad weight decreased from 2021 to 2023 but otherwise remained stable (Figure 7-17).



Notes: Female and male gonad weights adjusted to sex-specific mean total weights (female: 152 g; male: 117 g). One female sampled in 2021 (FIN: BAFF21UMLNFRSC1019) was omitted as an outlier.

CI = confidence interval.

Figure 7-17: Relative Gonad Weight for Female and Male Fourhorn Sculpin Sampled from Milne Port, 2020 to 2024

Table 7-10: Summary of Statistical Comparisons for Fourhorn Sculpin Sampled from 2020 to 2024, Milne Port Area

Effect Indicator	Endpoint[a]	Statistical Test	*n* Outlier	Sample Size					Year *P*-value	Least Squares Mean					Year Trend *P*-value					Year Trend Slope Estimate					Trend Direction				
				2020	2021	2022	2024	2024		2020	2021	2022	2024	2024	2020	2021	2022	2024	2024	2020	2021	2022	2024	2024	2020	2021	2022	2024	2024
Female																													
Survival	Age	GAM_{log10}	0	22	20	20	20	20	**0.003**	0.730	0.780	0.815	0.817	0.807	**0.030**	**0.001**	0.154	0.579	0.605	0.052	0.046	0.019	-0.0078	-0.012	↑	↑	-	-	-
Growth	Size-at-Age	GAM_{log10}[b]	0	21	16	20	20	19	**0.021**	2.13	2.15	2.17	2.19	2.21	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	0.018	0.018	0.018	0.018	0.018	↑	↑	↑	↑	↑
Condition (Energy Storage)	Condition	GAM_{log10}	0	22	20	20	20	20	**0.001**	2.19	2.16	2.22	2.21	2.20	**0.011**	**0.002**	**0.004**	**0.009**	0.959	-0.054	0.034	0.033	-0.028	-0.0011	↓	↑	↑	↓	-
	Relative Liver Weight	GAM_{log10}	0	22	20	20	20	20	**0.004**	0.735	0.761	0.786	0.812	0.838	**0.004**	**0.004**	**0.004**	**0.004**	**0.004**	0.026	0.026	0.026	0.026	0.026	↑	↑	↑	↑	↑
Reproduction	Relative Gonad Weight	GAM_{log10}	0	22	19	20	20	20	**0.053**	0.770	0.740	0.691	0.692	0.739	0.564	**0.020**	0.129	0.126	0.141	-0.021	-0.046	-0.032	0.030	0.055	-	↓	-	-	-
Male																													
Survival	Age	GAM_{log10}	0	21	20	20	20	20	**0.079**	0.734	0.796	0.814	0.775	0.792	**0.078**	**0.013**	0.279	0.321	0.35	0.068	0.049	-0.023	-0.019	0.036	↑	↑	-	-	-
Growth	Size-at-Age	GAM_{log10}[b]	0	21	18	19	20	20	**0.005**	2.02	2.04	2.07	2.09	2.11	**0.055**	**0.011**	**0.007**	**0.086**	0.33	0.027	0.026	0.023	0.018	0.014	↑	↑	↑	↑	-
Condition (Energy Storage)	Condition	GAM_{log10}	0	21	20	20	19	20	**0.006**	2.05	2.02	2.06	2.07	2.05	**0.005**	0.343	**0.000**	0.254	0.16	-0.050	0.0081	0.035	-0.010	-0.025	↓	-	↑	-	-
	Relative Liver Weight	GAM_{log10}	0	21	20	20	20	20	**<0.001**	0.425	0.385	0.507	0.578	0.440	0.115	**0.067**	**<0.001**	0.121	**0.001**	-0.083	0.047	0.14	-0.040	-0.19	-	↑	↑	-	↓
Reproduction	Relative Gonad Weight	GAM_{log10}	0	21	20	20	20	20	**<0.001**	0.646	0.645	0.580	0.504	0.531	0.785	0.203	**0.001**	0.246	0.248	0.013	-0.030	-0.091	-0.027	0.055	-	-	↓	-	-

Notes: Statistically significant values are indicated in bold. Statistical outliers are provided in Appendix 7A, Table 7A-12. Detailed statistical results for size-adjustment are provided in Appendix 7A, Table 7A-13.

(a) For model components, please see Table 7-3.

(b) Temporal trends assessed over range of overlapping covariate values (i.e., Ages 4 to 9 years).

P-value = probability value; GAM = Gaussian additive model; log10 = log10-transformed data.

7.4.1.3 *Hiatella arctica*

In 2024, a total of 63 *H. arctica* were collected from Milne Port and Tugaat River Estuary and processed for fish health endpoints (Table 7-11). A total of 40 *H. arctica* were collected from Milne Port , ranging in length from 19.7 mm to 36.3 mm, with a median length of 26.8 mm, and whole animal wet weight ranging from 0.826 g to 4.88 g, with a median value of 2.12 g. Length data showed some right skewness but no multimodality at Milne Port (Figure 7-18). Length exhibited a strong relationship with total weight ($P < 0.001$; $R^2 = 0.73$). Gonad weights ranged from 0.006 g to 0.587 g, with a median value of 0.024 g; mantle somatic index (MSI) ranged from 1.3 to 1,238 with a median value of 3.96. *Hiatella arctica* sampled from Milne Port ranged in age from 5 to 82 years, with a median age of 13. Median condition factor in 2024 was 1.57, ranging from 0.97 to 2.32.

A total of 23 *H. arctica* were collected from Tugaat River Estuary, ranging in length from 17.3 to 36.7 mm, with a median length of 28.0 mm, and whole animal wet weight ranging from 0.93 g to 7.60 g, with a median value of 2.91 g. Length data showed some multimodality, likely due in part to the smaller sample size (i.e., n = 23; Figure 7-18). Length exhibited a strong relationship with whole animal wet weight ($P < 0.001$; $R^2 = 0.79$). Gonad weights ranged from 0.008 g to 0.050 g, with a median value of 0.023 g; MSI ranged from 1.34 to 5.50, with a median value of 3.31. *Hiatella arctica* sampled from Tugaat River Estuary ranged in age from 6 to 59 years, with a median age of 22. Median condition factor in 2024 was 3.31, ranging from 1.34 to 5.50.

Table 7-11: Descriptive Statistics for Hiatella arctica Health Endpoints from Milne Port and Tugaat River Estuary, 2024

Parameter	Milne Port Area							Tugaat River Estuary						
	n	Min	Max	Median	Mean	SD	SE	n	Min	Max	Median	Mean	SD	SE
Hiatella arctica														
Total Length (mm)	40	19.7	36.3	26.8	26.3	3.51	0.555	23	17.3	36.7	28.0	27.6	4.63	0.97
Whole Animal ww (g)	40	0.826	4.88	2.12	2.41	1.10	0.175	23	0.925	7.60	2.91	3.17	1.60	0.334
Shell ww (g)	40	0.435	3.50	1.11	1.36	0.810	0.128	23	0.450	5.56	1.56	1.97	1.20	0.250
Shell dw (g)	40	0.359	3.28	0.95	1.20	0.750	0.119	23	0.350	5.19	1.40	1.73	1.10	0.230
Tissue ww (g)	40	0.135	1.20	0.62	0.65	0.277	0.044	23	0.299	1.46	0.77	0.77	0.310	0.065
Condition factor	40	0.97	2.32	1.57	1.62	0.32	0.050	23	1.17	2.88	1.77	1.85	0.39	0.080
Gonad ww (g)	40	0.006	0.587	0.024	0.056	0.113	0.0179	23	0.007	0.050	0.023	0.026	0.013	0.003
MSI	40	1.63	1,238	3.96	46.6	202	31.9	23	1.34	5.50	3.31	3.43	1.02	0.21
Age (y)	38	5	82	13	20	19	3.1	22	6	59	22	24	17	3.6

Notes: Data for previous monitoring years presented in Appendix 7A, Table 7A-5.

ww = wet weight; dw = dry weight; MSI = Mantle Somatic Index; n = sample size; min = minimum; max = maximum; SD = standard deviation; SE = standard error.

Table 7-12: Summary of Statistical Comparisons for *Hiatella arctica* Health Endpoints between Milne Port and Tugaat River Estuary, 2024

Effect Indicator	Endpoint[a]	Dependent Variable	Covariate	Statistical Test	Sample Size		Least Squares Mean		Area *P*-value	Magnitude of Effect (%)[b]	Power Analysis[c]	
					Milne Port	Tugaat River Estuary	Milne Port	Tugaat River Estuary			Minimum Detectable Difference[d]	Sensitivity[e]
Hiatella arctica												
Survival	Length Frequency	Total Length	-	K-S Test	40	23	-	-	0.196	-	n/a	n/a
Growth	Total Wet Weight	Whole Animal ww	-	$ANOVA_{log10}$	40	23	0.451	0.560	**0.048**	-22%	0.975 / 1.401	30% / 44%
Condition	Relative Total Weight	Whole Animal ww	Total Length	$ANCOVA_{log10}$	40	23	0.469	0.529	**0.011**	-13%	0.443 / 0.515	14% / 16%
	Relative Shell Weight	Dry Shell Weight	Total Length	$ANCOVA_{log10}$	40	23	0.025	0.121	**0.021**	-20%	0.278 / 0.363	23% / 31%
Reproduction	Mantle Somatic Index	Gonad Weight	Tissue ww	$ANCOVA_{log10}$	36	23	-1.67	-1.69	0.594	-	0.001 / 0.001	25% / 33%

Notes: Statistically significant values are indicated in bold. Power analysis was completed assuming normality. Supporting information for statistical model results are provided in Appendix 7A, Table 7A-12.

(a) For model components, please see Table 7-4.

(b) The magnitude of effect is calculated as the difference in least squares mean values between Milne Port and Tugaat River Estuary.

(c) For log_{10}-transformed models, power analysis was completed for differences less than and greater than the mean. Minimum detectable difference and sensitivity were determined using back-transformed values and are presented as: differences lower than | greater than the mean.

(d) Minimum Detectable Difference expressed as difference from the overall mean.

(e) Sensitivity is the minimum detectable difference expressed as a percent change in Tugaat River Estuary mean.

ww = wet weight; log_{10} = log_{10}-transformed dependent variable and covariate; data; K-S Test = Kolmogorov-Smirnov test; ANOVA = analysis of variance; ANCOVA = analysis of covariance; - = not applicable; nc = not calculated.

7.4.1.3.1 Spatial Comparisons

7.4.1.3.1.1 Survival – Length-Frequency Analysis

Results of the Kolmogorov-Smirnov tests indicate there was no significant difference in length-frequency distributions between areas for *H. arctica* (Table 7-12).

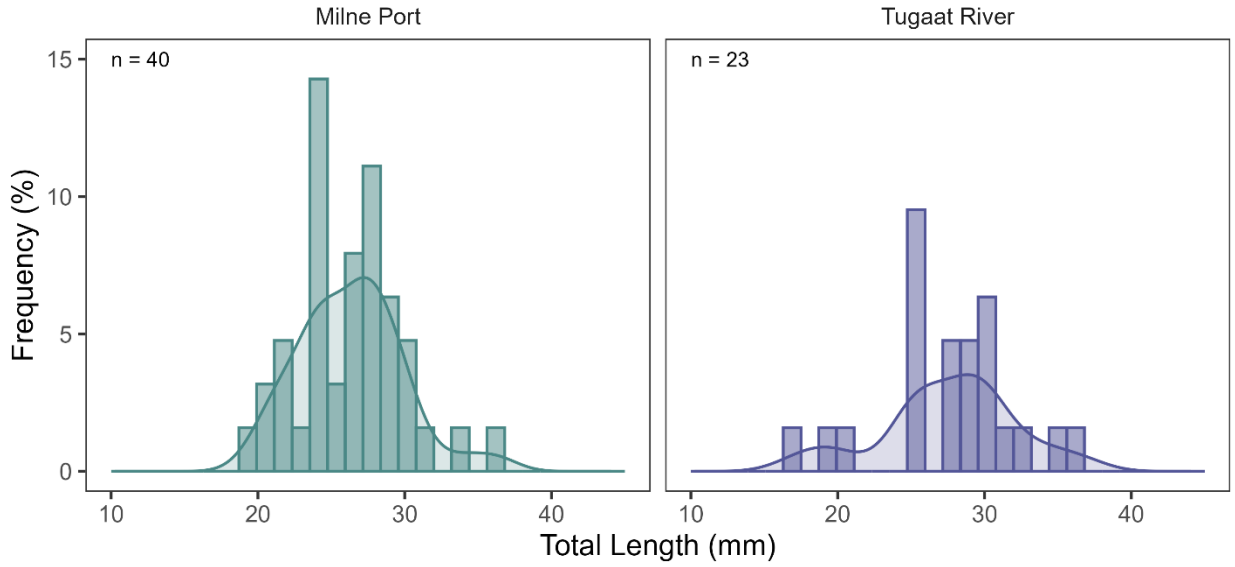


Figure 7-18: Length-Frequency Distribution for *Hiatella arctica* captured from Milne Port and Tugaat River Estuary, 2024

7.4.1.3.1.2 Growth – Whole Animal Wet Weight

Whole animal wet weight ranged from 0.826 to 4.88 g in Milne Port, and 0.925 to 7.60 g from Tugaat River Estuary (Table 7-11). Whole animal wet weight was significantly lower in *H. arctica* from Milne Port when compared to Tugaat River Estuary, with a magnitude of difference of -22% (Table 7-12; Figure 7-19).

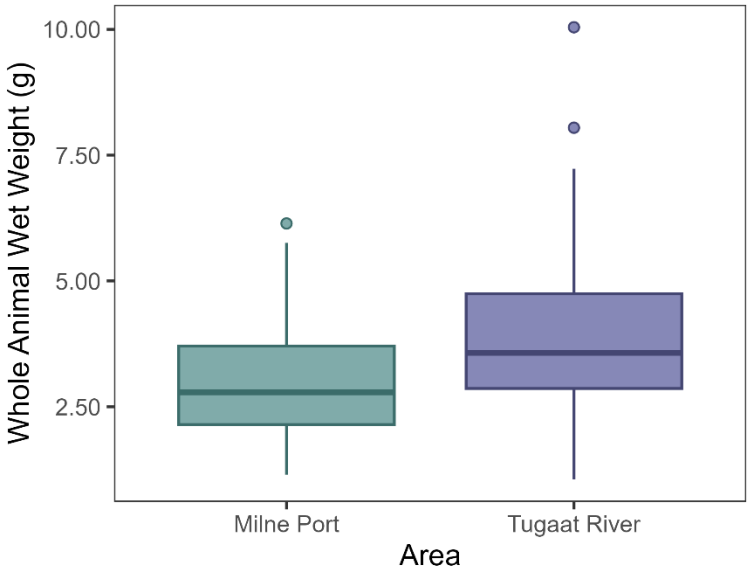


Figure 7-19: Boxplot of Whole Animal Wet Weight of *Hiatella arctica* captured from Milne Port and Tugaat River Estuary, 2024

7.4.1.3.1.3 Condition – Relative Total Weight and Relative Shell Weight

Differences in relative total weight and relative shell weight were evaluated over the shared range of lengths between sampling areas (i.e., 17 to 37 mm; Environment Canada 2012; Figure 7-20, Figure 7-21). Both relative total weight and relative shell weight were significantly lower in Milne Port compared to Tugaat River Estuary (Table 7-12). The magnitudes of difference were -13% and -20%, respectively (Table 7-12).

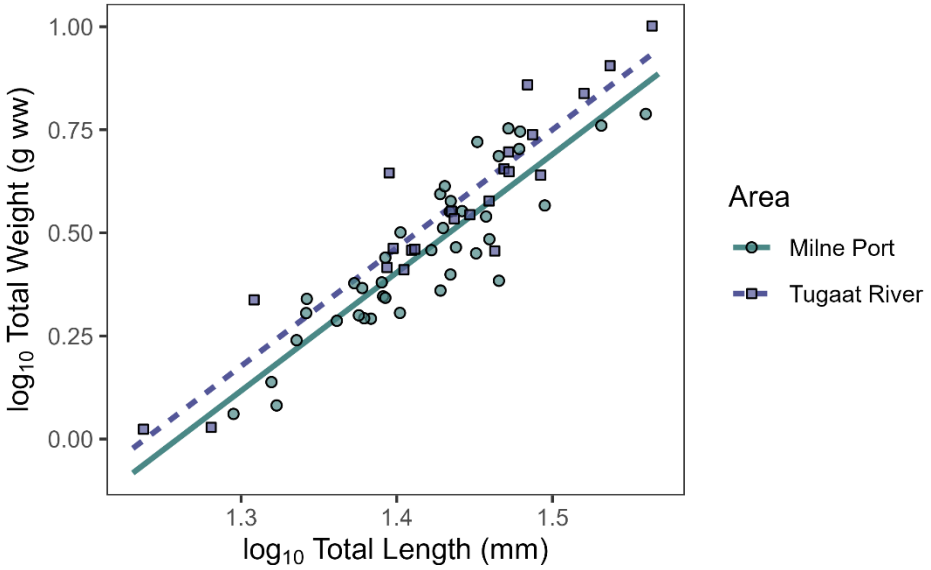


Figure 7-20: Relationship between Total Weight and Total Length of *Hiatella arctica* Captured from Milne Port and Tugaat River Estuary, 2024

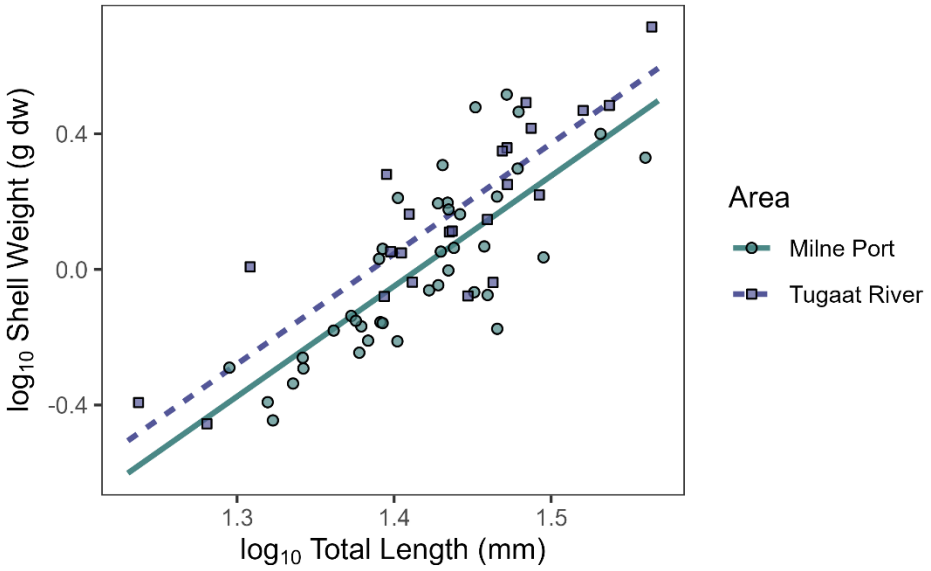
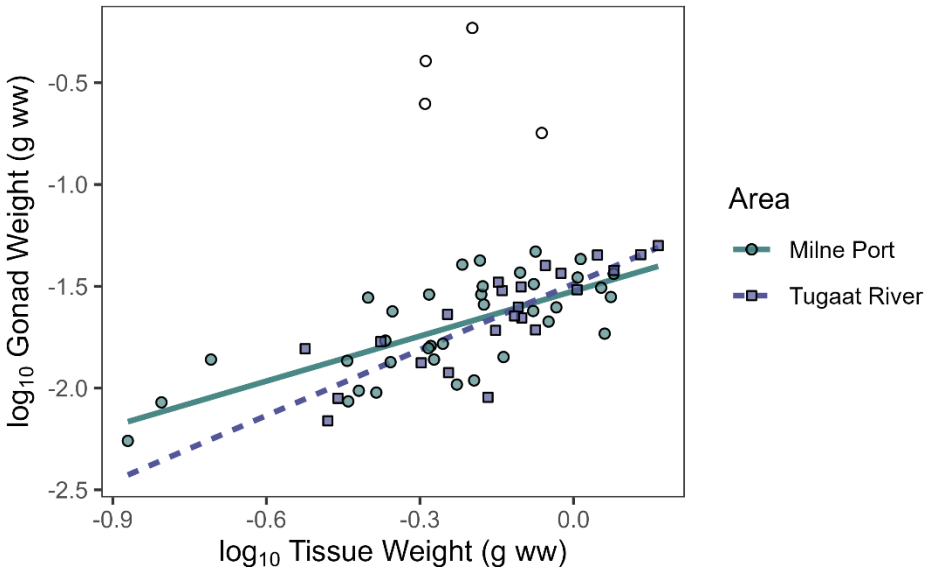


Figure 7-21: Relationship between Shell Weight and Total Length of *Hiatella arctica* Captured from Milne Port and Tugaat River Estuary, 2024

7.4.1.3.1.4 Reproduction – Mantle Somatic Index

Mantle somatic index (MSI) in *H. arctica* from Milne Port ranged from 1.63 to 1,238, and in *H. arctica* from Tugaat River Estuary ranged from 1.34 to 5.50 (Table 7-11). Relative gonad weight did not differ between sampling areas (Table 7-12; Figure 7-22).



○ = omitted from ANCOVA.

Figure 7-22: Relationship between Gonad Weight and Soft Tissue Weight of *Hiatella arctica* captured from Milne Port and Tugaat River Estuary, 2024

Table 7-13: Summary of Statistical Comparisons for *Hiatella arctica* Health Endpoints at Milne Port between 2020, 2021, 2022, 2023, and 2024

Effect Indicator	Endpoint[a]	Covariate	Statistical Test	Sample Size					Year *P*-value	Least Squares Mean					Year Trend *P*-value					Year Trend Slope Estimate					Trend Direction				
				2020	2021	2022	2024	2024		2020	2021	2022	2024	2024	2020	2021	2022	2024	2024	2020	2021	2022	2024	2024	2020	2021	2022	2024	2024
Hiatella arctica																													
Survival	Length Frequency[b]	n/a	K-S Test	50	35	44	40	40	-	29.09	30.45	29.53	30.47	26.80	-	0.234	0.797	0.797	**<0.001**	-	1.360	-0.925	0.940	-3.670	-	-	-	-	↓
Growth	Whole Animal Wet Weight	n/a	GAM_{log10}	50	35	44	40	40	**<0.001**	4.32	4.14	4.66	5.17	3.14	0.479	0.613	**<0.001**	**0.001**	**<0.001**	-0.323	0.11	0.92	-0.70	-2.69	-	-	↑	↓	↓
Condition (Energy Storage)	Condition[d]	Total Length	GAM_{log10}	49	34	44	40	39	**0.004**	0.62	0.58	0.63	0.65	0.59	**0.020**	0.479	**0.001**	**0.052**	**0.006**	-0.063	0.0088	0.052	-0.025	-0.074	↓	-	↑	↓	↓
	Relative Shell Weight[e]	Total Length	GAM_{log10}	50	27	27	36	23	0.106	0.194	0.262	0.193	0.245	0.201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reproduction	Mantle Somatic Index[f]	Tissue Wet Weight	GAM_{log10}	-	35	40	39	36	**<0.001**	-	-1.77	-1.80	-1.30	-1.54	-	**<0.001**	**<0.001**	**<0.001**	**<0.001**	-	-0.22	0.35	0.22	-0.47	-	↓	↑	↑	↓

Notes: Statistically significant values are indicated in bold. Statistical outliers are provided in Appendix 7A, Table 7A-12. Detailed statistical results are provided in Appendix 7A, Table 7A-11. Detailed statistical results for size-adjustment are provided in Appendix 7A, Table 7A-13.

(a) For model components, please see Table 7-4.

(b) Least squares mean values are median total lengths. P-values adjusted using Holm's correction for multiple comparisons (Holm 1979). Trend slopes are sequential pairwise differences between years (e.g., between 2020 and 2021).

(c) GAM analysis using log10-transformation proceeded despite significant Shapiro-Wilk test result as inspection of residuals did not suggest severe deviation from normality.

(d) Evaluated over the range of overlapping covariate values (i.e., total lengths ranging from 20.00 to 37.40 mm).

(e) Evaluated over the range of overlapping covariate values (i.e., whole animal wet weights ranging from 1.004 to 4.934 g).

(e) Evaluated over the range of overlapping covariate values (i.e., tissue wet weights ranging from 1.000 to 4.934 g).

7.4.1.3.2 Temporal Comparisons

7.4.1.3.2.1 Survival – Length-Frequency

Results of the pairwise sequential Kolmogorov-Smirnov tests indicate there were no significant differences between most years in length-frequency distributions for *H. arctica*, except for between 2023 and 2024 (Table 7-13). *Hiatella* collected in 2024 were generally smaller than those collected in 2023 in Milne Port (Appendix 7A, Table 7A-5), with the median total length in 2024 (26.80 mm) being less than that in 2023 (30.50 mm).

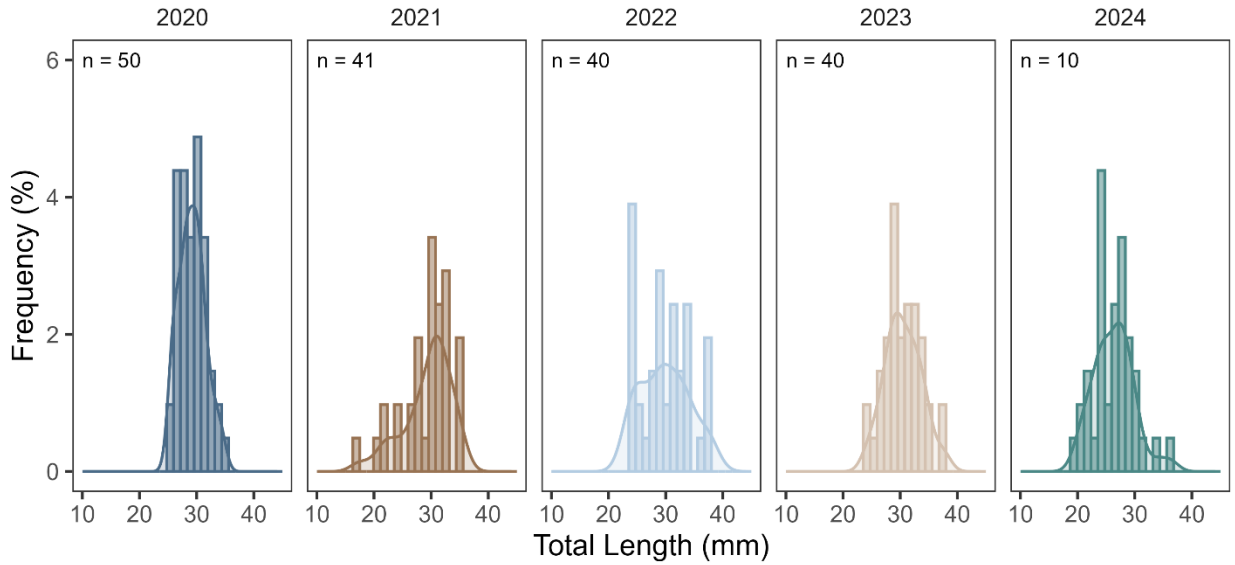
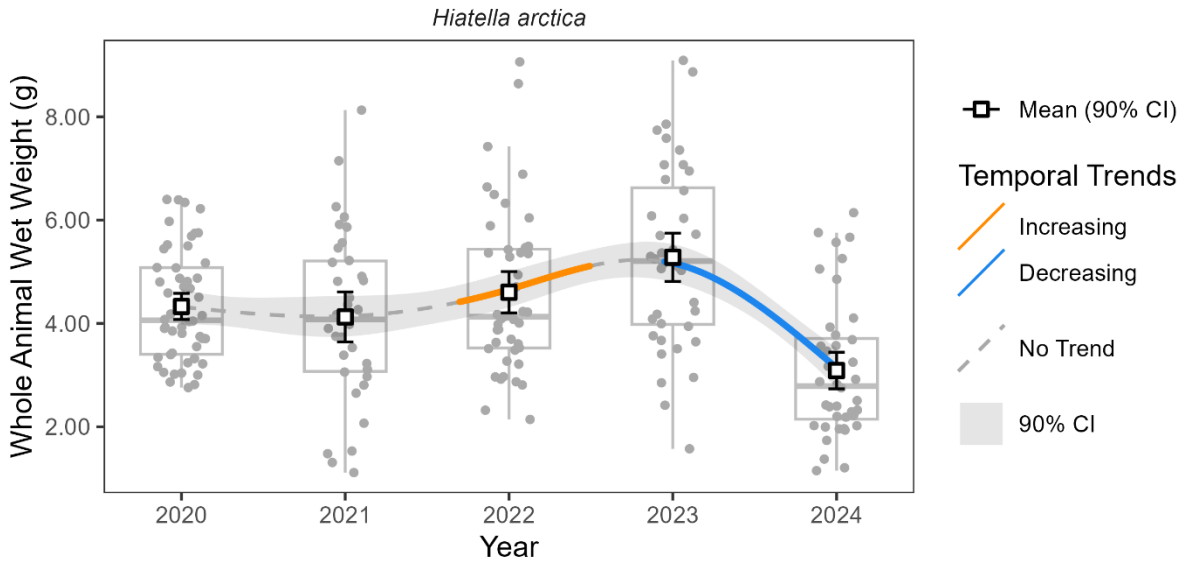


Figure 7-23: Length-Frequency Distributions for *Hiatella arctica* captured from Milne Port, 2020 to 2024

7.4.1.3.2.2 Growth – Whole Animal Wet Weight

Mean whole animal wet weight ranged from 3.09 in 2024 to 5.28 in 2023 (Appendix 7A, Table 7A-5). Mean whole animal wet weight varied significantly over sampling years, increasing from 2021 to 2023 and then decreasing from 2023 to 2024 (Table 7-13; Figure 7-24).

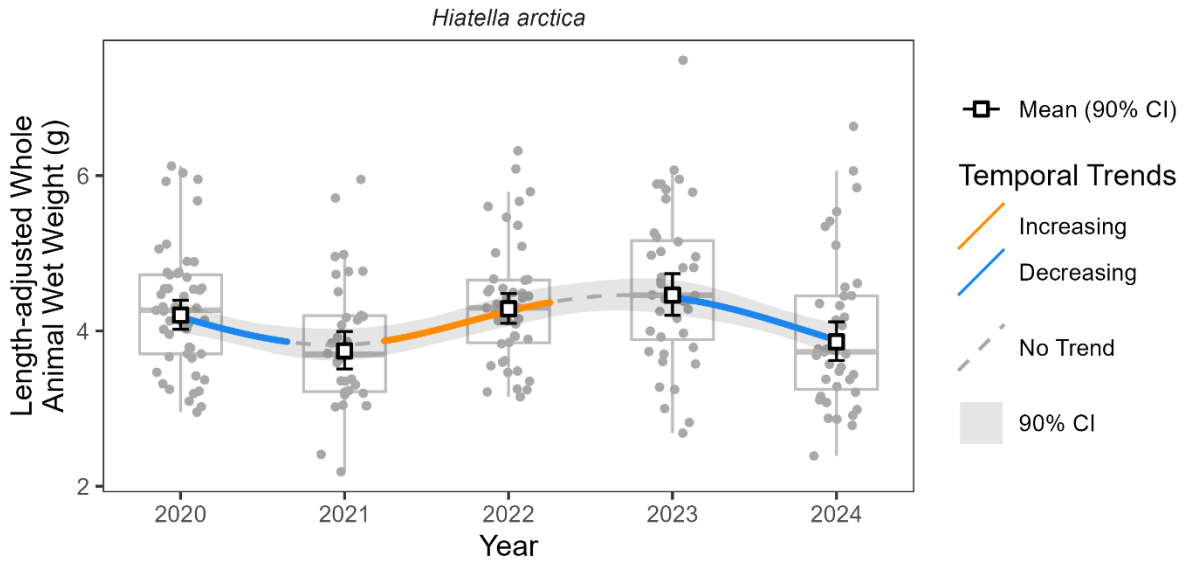


CI = confidence interval.

Figure 7-24: Temporal Trends in Whole Animal Wet Weight of *Hiatella arctica* captured from Milne Port, 2020 to 2024

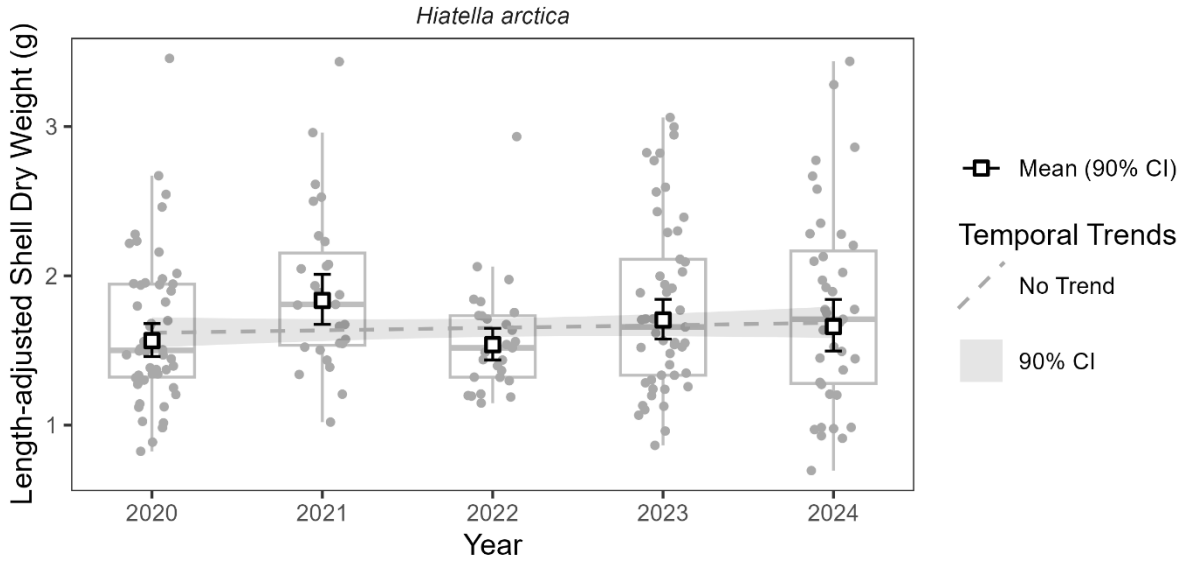
7.4.1.3.2.3 Condition – Relative Total Weight and Relative Shell Weight

Trends in relative total weight and relative shell weight were evaluated over the shared range of lengths (i.e., 20 to 38 mm for all years), per Environment Canada (2012). Relative total weight varied significantly among sampling years (Table 7-13). Observed trends suggested natural interannual variability, where mean relative total weights fluctuated between sampling years with no consistent, directional trends (Figure 7-25). In contrast, no trends in relative shell weight were observed from 2020 to 2024 (Figure 7-26; Table 7-13).



CI = confidence interval.

Figure 7-25: Temporal Trends in Length-Adjusted Whole Animal Wet Weight of *Hiatella arctica* captured from Milne Port, 2020 to 2024

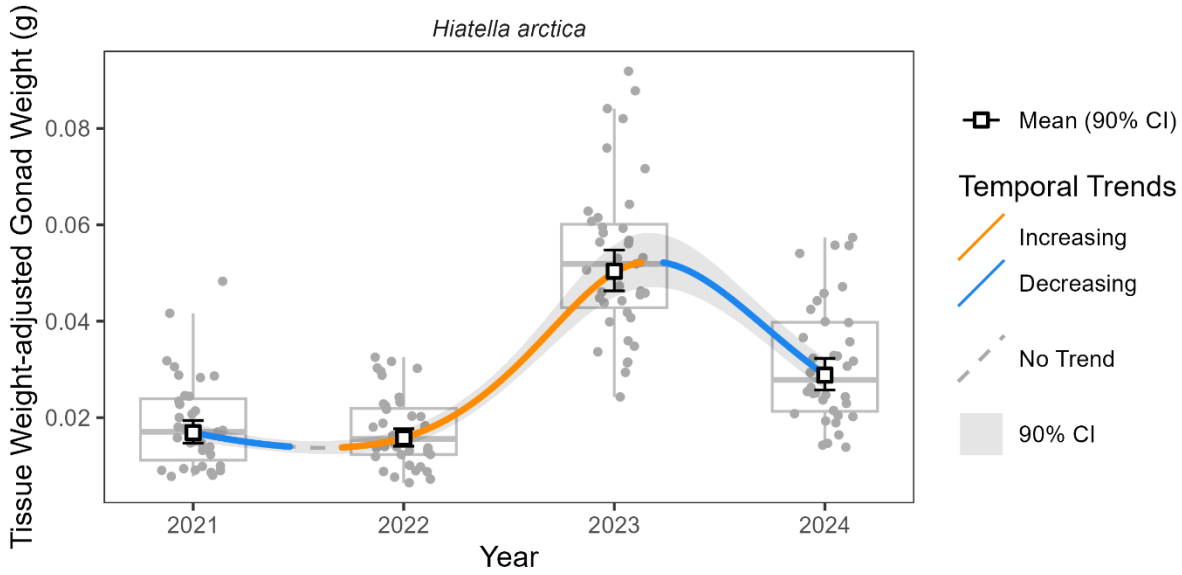


CI = confidence interval.

Figure 7-26: Temporal Trends in Length-Adjusted Shell Dry Weight of *Hiatella arctica* Captured from Milne Port, 2020 to 2024

7.4.1.3.2.4 Reproduction – Mantle Somatic Index

Due to a narrow range of overlapping tissue weights (Appendix 7A, Table 7A-5), gonad weight was standardized to 0.850 g tissue wet weight prior to trend assessment. Relative gonad weights varied significantly over sampling years (Table 7-13). Mean gonad weight decreased from 2021 to 2022, increased to the highest value in 2023, before decreasing to 2024 (Figure 7-27).



CI = confidence interval.

Figure 7-27: Relationship between Gonad Weight and Soft Tissue Weight of *Hiatella arctica* captured from Milne Port, 2021 to 2024

Results of fish health analysis for Arctic Char, Fourhorn Sculpin, and *Hiatella arctica* were within FEIS predictions and subsequent addenda, which indicated the potential for low magnitude reductions in fish health and condition associated with Project activities. Results presented herein do not exceed predicted effects on fish health due to Project activities.

7.4.2 Fish Tissue Chemistry

A total of 413 fish tissue samples were submitted for metals analysis and 135 fish tissue samples were submitted for PAH analysis from Milne Port from 2010 to 2024. A summary of sample sizes by species and year are provided in Appendix 7B, Table 7B-1. The analyses presented herein focus on data collected since 2018. Summaries of tissue chemistry data collected in previous monitoring years are presented in Appendix 7B, Tables 7B-9 to 7B-11, and visual comparisons of the entire data series, including years prior to 2018, are shown as boxplots in Appendix 7C. A summary of sample sizes analyzed in 2024 and those previously analyzed is provided in Table 7-14. Results for individual species are described in the following sections.

Table 7-14: Summary of Sample Sizes Achieved for Tissue Chemistry Analysis

Species	Analytical Group	Sample Size	
		Previously Analyzed	2024
Milne Port			
Arctic Char	Metals	113	8
	PAHs	58	8
Fourhorn Sculpin	Metals	70	8
	PAHs	40	8
Hiatella arctica	Metals	144	8
	PAHs	22	0
Reference Areas			
Fourhorn Sculpin	Metals	12	8
	PAHs	8	8
Hiatella arctica	Metals	4	6
	PAHs	1	0

PAH = polycyclic aromatic hydrocarbons.

7.4.2.1 Spatial Comparisons

7.4.2.1.1 Fourhorn Sculpin

Tissue Metals

In 2024, 16 Fourhorn Sculpin tissue samples were analyzed for metals (i.e., eight samples from Milne Port and eight samples from Koluktoo Bay). Summary statistics for metals concentrations are provided in Table 7-15 and these results are presented as boxplots in Appendix 7C, Figures 7C-1 to 7C-31. Statistical comparisons for COPCs among sampling areas are provided in Table 7-16.

Concentrations of metals in Fourhorn Sculpin were generally similar between Milne Port and Koluktoo Bay (Appendix 7C, Figures 7C-1 to 7C-31), with a few exceptions. The range of measured concentrations of arsenic in samples from Koluktoo Bay appeared to be greater than the range of measured concentrations in Milne Port (Appendix 7C, Figure 7C-3). These results are likely related to localized differences in water or sediment chemistry nearby the sampling area and are considered to represent natural variability in the environment due to their association with the reference area.

Concentrations of all COPCs in Fourhorn Sculpin tissues were not statistically different between sampling areas (Table 7-16).

Polycyclic Aromatic Hydrocarbons

In 2024, 16 Fourhorn Sculpin tissue samples were analyzed for PAHs (i.e., eight samples collected from Milne Port and eight samples collected from Koluktoo Bay). The reported concentrations of PAHs were below DL for all parameters analyzed in Fourhorn Sculpin (Appendix 7B, Table 7B-7).

Results of chemical analyses of metals and PAHs in Fourhorn Sculpin tissues were within FEIS predictions and subsequent addenda, which indicated the potential for low magnitude increases in fish tissue concentrations of metals and/or PAHs associated with Project activities. Results presented herein do not exceed predicted effects on fish tissue chemistry due to Project activities.

Table 7-15: Descriptive Statistics for Fourhorn Sculpin Tissue Chemistry Data Analyzed from Milne Port Area and Koluktoo Bay, 2024

Parameter (mg/kg ww)	DL	Milne Port							Koluktoo Bay						
		N >DL / N Total	Min	Max	Median	Mean	SD	SE	N >DL / N Total	Min	Max	Median	Mean	SD	SE
Aluminum	0.50	100	0.57	1.9	1.4	1.4	0.41	0.14	100	0.62	1.9	1.2	1.2	0.45	0.16
Antimony	0.0020	100	<0.0020	0.025	0.0049	0.0072	0.0076	0.0027	100	0.0025	0.0085	0.0056	0.0053	0.0021	0.00075
Arsenic	0.0050	100	2.2	6.0	3.2	3.4	1.2	0.42	100	1.9	8.4	3.5	4.2	2.2	0.79
Barium	0.010	100	0.016	0.19	0.029	0.050	0.057	0.020	100	0.016	0.099	0.042	0.049	0.031	0.011
Beryllium	0.0020	13	<0.0020	<0.0020	<0.0020	<0.0020	-	-	0	<0.0020	<0.0020	<0.0020	<0.0020	-	-
Bismuth	0.0013	75	<0.0013	0.0063	0.0027	0.0031	0.0018	0.00064	0	<0.0013	<0.0013	<0.0013	<0.0013	-	-
Boron	0.20	13	<0.20	<0.20	<0.20	<0.20	-	-	0	<0.20	<0.20	<0.20	<0.20	-	-
Cadmium	0.0013	100	0.0035	0.016	0.0073	0.0088	0.0049	0.0017	100	0.0037	0.012	0.0077	0.0073	0.0028	0.00099
Calcium	4.0	100	110	3500	150	620	1200	420	100	100	310	120	160	74	26
Chromium	0.025	50	<0.025	0.26	0.034	0.061	0.085	0.030	38	<0.025	0.15	<0.025	0.032	0.050	0.018
Cobalt	0.0013	100	0.0052	0.016	0.013	0.011	0.0038	0.0013	100	0.0068	0.022	0.014	0.014	0.0047	0.0017
Copper	0.013	100	0.32	0.68	0.47	0.50	0.13	0.045	100	0.32	0.72	0.39	0.43	0.13	0.044
Iron	0.25	100	5.7	19	7.2	9.4	5.0	1.8	100	5.2	43	6.8	12	13	4.5
Lead	0.0013	100	0.0022	0.017	0.0082	0.0083	0.0046	0.0016	100	0.0040	0.012	0.0067	0.0071	0.0030	0.0011
Magnesium	0.40	100	190	300	220	240	46	16	100	210	310	230	240	34	12
Manganese	0.010	100	0.11	0.64	0.18	0.26	0.18	0.064	100	0.16	0.51	0.24	0.27	0.12	0.042
Mercury	0.0020 - 0.010	100	0.11	0.32	0.15	0.18	0.069	0.025	100	0.067	0.36	0.12	0.17	0.11	0.040
Molybdenum	0.0080	0	<0.0080	<0.0080	<0.0080	<0.0080	-	-	0	<0.0080	<0.0080	<0.0080	<0.0080	-	-
Nickel	0.010	100	<0.010	0.37	0.034	0.074	0.12	0.043	100	0.011	0.26	0.029	0.061	0.083	0.029
Phosphorus	2.0	100	2000	4300	2200	2500	760	270	100	2000	2400	2200	2200	110	40
Potassium	2.5	100	3300	3900	3800	3700	180	65	100	3500	3900	3700	3700	130	47
Selenium	0.010	100	0.45	0.72	0.53	0.55	0.095	0.033	100	0.45	0.78	0.60	0.61	0.12	0.044
Silver	0.0013	25	<0.0013	0.0056	<0.0013	<0.0013	0.0020	0.00069	0	<0.0013	<0.0013	<0.0013	<0.0013	-	-
Sodium	2.5	100	590	890	720	720	94	33	100	680	1200	760	810	160	56
Strontium	0.013	100	0.34	18	0.55	3.0	6.1	2.1	100	0.40	1.7	0.58	0.76	0.48	0.17
Thallium	0.00040	100	0.00055	0.0019	0.0010	0.0011	0.00043	0.00015	100	0.00050	0.0012	0.00075	0.00078	0.00024	0.000085
Tin	0.020	75	<0.020	0.047	0.022	0.025	0.012	0.0041	38	<0.020	0.044	<0.020	<0.020	0.014	0.0049
Titanium	0.13	100	0.28	0.57	0.31	0.34	0.096	0.034	100	0.27	0.39	0.29	0.30	0.041	0.014
Uranium	0.00040	50	<0.00040	0.0042	<0.00040	0.0014	0.0018	0.00064	25	<0.00040	0.00056	<0.00040	<0.00040	0.00011	0.000038
Vanadium	0.020	0	<0.020	<0.020	<0.020	<0.020	-	-	13	<0.020	<0.020	<0.020	<0.020	-	-
Zinc	0.20	100	10	31	14	17	6.8	2.4	100	11	34	16	20	9.0	3.2

Notes: Data for previous monitoring years presented in Appendix 7B, Table 7B-9.

N > DL / N Total = number of samples above DL / sample size; mg/kg = milligram per kilogram wet weight; > = greater than; DL = detection limit; n = sample size; min = minimum; max = maximum; SD = standard deviation; SE = standard error.

Table 7-16: Summary of Spatial Comparisons of Constituents of Potential Concern in Fourhorn Sculpin and *Hiatella arctica* Tissue Samples Collected from Milne Port and Reference Areas, 2024

Parameter	Statistical Test	Sample Size		*n* Outliers	Coefficient of Determination (R^2)		Interaction *P*-value	Area *P*-value	Least Squares Means		Magnitude of Effect (%)	Power Analysis[a]	
		Milne Port	Reference		Full Model	Reduced Model			Milne Port	Reference		Minimum Detectable Difference[b]	Sensitivity[c]
Fourhorn Sculpin													
Aluminum	ANOVA	8	8	0	0.071	-	-	0.317	1.408	1.19	-	0.766	59%
Iron	$ANOVA_{rank}$	8	8	0	0.001	-	-	0.921	7.17	6.47	-	7.6	111%
Magnesium	ANOVA	8	8	0	0.010	-	-	0.714	236	244	-	71.2	30%
Mercury	$ANCOVA_{log}$[d]	8	8	0	0.581	0.569	0.570	0.909	-0.810	-0.819	-	3.00 / 5.56	46% / 85%
Selenium	ANOVA[e]	8	8	0	0.093	-	-	0.250	0.546	0.612	-	0.196	34%
Hiatella arctica													
Aluminum	ANOVA	8	5	1	0.449	-	-	**0.012**	55	109	-49%	86	105%
Iron	ANOVA	8	5	1	0.206	-	-	0.120	137	189	-	147	90%
Magnesium	ANOVA	8	6	0	0.203	-	-	0.106	896	1041	-	418	43%
Mercury	ANOVA	8	6	0	0.200	-	-	0.109	0.0413	0.0324	-	0.0261	71%
Selenium	ANOVA	8	5	1	0.346	-	-	**0.035**	1.61	1.87	-14%	0.527	30%

Note: Significant differences indicated in **bold**. Supporting information for statistical model results are provided in Appendix 7B, Table 7B-12.

(a) Power Analysis values presented on measurement scale. Log_{10}-transformed models include values for differences below and above the grand mean.

(b) Minimum Detectable Difference expressed as difference from the overall mean.

(c) Sensitivity is the minimum detectable difference expressed as a percent change in the overall mean.

(d) Length was included as a covariate for ANCOVA.

(e) Length was not significantly related to selenium concentrations in Fourhorn Sculpin in 2024; therefore, ANOVA was used.

ANOVA = analysis of variance; ANCOVA = analysis of covariance; log = log_{10}-transformed data; rank = rank-transformed data; - = not calculated, not applicable.

7.4.2.1.2 Hiatella arctica

Tissue Metals

In 2024, a total of 14 *H. arctica* samples were analyzed for metals (i.e., eight composite samples composed of shellfish collected from Milne Port, and six composite samples composed of shellfish collected from Tugaat River Estuary). Summary statistics for *H. arctica* metals concentrations are provided in Table 7-17 and are presented visually as boxplots in Appendix 7C, Figures 7C-1 to 7C-31. Statistical comparisons for COPCs among years are provided in Table 7-16.

Concentrations of metals in *Hiatella* were generally similar between Milne Port and Tugaat River Estuary, with a few exceptions. The range of measured concentrations of barium and selenium in samples from Tugaat River Estuary appeared to be greater than the range of measured concentrations in Milne Port in 2024 (Appendix 7C, Figures 7C-4 and 7C-23). These results are likely related to localized differences in water or sediment chemistry nearby or upstream of the estuary and are considered to represent natural variability in the environment due to their association with the reference area. Concentrations of COPCs were generally not significantly different between sampling areas, with the exception of aluminum and selenium (Table 7-16). Mean aluminum and selenium concentrations were significantly lower in samples from Milne Port compared to Tugaat River Estuary: the magnitudes of effect were 49% and 12%, respectively, which are below the CES.

Polycyclic Aromatic Hydrocarbons

In 2024, no tissue samples of *H. arctica* were analyzed for PAHs, due to low sample masses and the high mass requirements for PAHs compared to metals analysis. Given PAH concentrations in *H. arctica* have consistently been below DL since 2020, it is expected the concentrations remain below DL in 2024.

Results of chemical analyses of metals in *Hiatella arctica* tissues were within FEIS predictions and subsequent addenda, which indicated the potential for low magnitude increases in fish tissue concentrations of metals and associated with Project activities. Results presented herein do not exceed predicted effects on fish tissue chemistry due to Project activities.

Table 7-17: Descriptive Statistics for *Hiatella arctica* Tissue Chemistry Data Analyzed from Milne Port Area and Tugaat River Estuary, 2024

Parameter	DL	Milne Port							Tugaat River Estuary						
		N > DL / N Total	Min	Max	Median	Mean	SD	SE	N > DL / N Total	Min	Max	Median	Mean	SD	SE
Aluminum	0.50	8 / 8	21	120	56	55	33	12	6 / 6	71	280	120	140	73	30
Antimony	0.0020	8 / 8	0.0027	0.023	0.0048	0.0078	0.0071	0.0025	6 / 6	0.0038	0.014	0.0048	0.0062	0.0039	0.0016
Arsenic	0.0050	8 / 8	1.5	2.2	1.9	1.9	0.24	0.084	6 / 6	1.8	2.6	2.2	2.1	0.29	0.12
Barium	0.010	8 / 8	3.7	53	5.0	16	18	6.4	6 / 6	2.9	140	27	44	52	21
Beryllium	0.0020	8 / 8	<0.0020	0.0077	0.0040	0.0042	0.0021	0.00076	6 / 6	0.0058	0.020	0.0067	0.0093	0.0055	0.0022
Bismuth	0.0013	8 / 8	0.0016	0.0078	0.0025	0.0030	0.0020	0.00070	6 / 6	0.0020	0.0049	0.0030	0.0032	0.0012	0.00049
Boron	0.20	8 / 8	2.1	3.1	2.8	2.7	0.35	0.12	6 / 6	2.7	5.2	3.3	3.6	1.0	0.41
Cadmium	0.0013	8 / 8	0.80	1.3	0.86	0.92	0.17	0.059	6 / 6	0.73	1.3	1.1	1.1	0.23	0.092
Calcium	4.0	8 / 8	680	1400	1100	1100	250	88	6 / 6	860	2100	1200	1300	450	180
Chromium	0.025	8 / 8	0.15	0.39	0.22	0.25	0.092	0.032	6 / 6	0.23	0.70	0.34	0.39	0.17	0.068
Cobalt	0.0013	8 / 8	0.20	0.33	0.26	0.27	0.041	0.014	6 / 6	0.24	0.49	0.29	0.32	0.093	0.038
Copper	0.013	8 / 8	1.2	1.7	1.5	1.5	0.19	0.068	6 / 6	1.1	2.1	1.7	1.6	0.41	0.17
Iron	0.25	8 / 8	80	260	140	140	59	21	6 / 6	140	490	200	240	130	52
Lead	0.0013	8 / 8	0.044	0.13	0.084	0.079	0.030	0.011	6 / 6	0.11	0.35	0.20	0.20	0.087	0.036
Magnesium	0.40	8 / 8	650	1100	880	900	140	48	6 / 6	850	1300	1000	1000	180	72
Manganese	0.010	8 / 8	14	31	20	21	5.5	1.9	6 / 6	16	36	20	22	7.4	3.0
Mercury	0.0010-0.0020	8 / 8	0.030	0.050	0.043	0.041	0.0085	0.0030	6 / 6	0.020	0.048	0.028	0.032	0.011	0.0045
Molybdenum	0.0080	8 / 8	0.12	0.19	0.17	0.17	0.022	0.0079	6 / 6	0.11	0.29	0.17	0.18	0.061	0.025
Nickel	0.010	8 / 8	0.43	0.73	0.58	0.57	0.11	0.037	6 / 6	0.41	0.85	0.66	0.64	0.18	0.073
Phosphorus	2.0	8 / 8	950	2000	1300	1300	320	110	6 / 6	1200	1600	1400	1400	160	66
Potassium	2.5	8 / 8	830	1200	1000	1000	120	42	6 / 6	1200	1500	1200	1300	150	61
Selenium	0.010	8 / 8	1.3	1.8	1.6	1.6	0.15	0.053	6 / 6	1.0	2.2	1.9	1.7	0.42	0.17
Silver	0.0013	8 / 8	0.0030	0.011	0.0066	0.0066	0.0024	0.00085	6 / 6	0.0094	0.033	0.011	0.015	0.0091	0.0037
Sodium	2.5	8 / 8	2200	5600	4600	4300	1200	430	6 / 6	4600	5600	4800	4900	360	150
Strontium	0.013	8 / 8	8.2	13	10	10	1.5	0.53	6 / 6	8.1	17	12	12	3.0	1.2
Thallium	0.00040	8 / 8	0.0021	0.0048	0.0034	0.0033	0.0011	0.00040	6 / 6	0.0035	0.0079	0.0041	0.0046	0.0017	0.00068
Tin	0.020	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-	0 / 6	<0.020	<0.020	<0.020	<0.020	-	-
Titanium	0.13	8 / 8	0.66	3.7	1.6	1.7	1.0	0.35	6 / 6	2.5	12	4.3	5.2	3.4	1.4
Uranium	0.00040	8 / 8	0.056	0.11	0.073	0.077	0.020	0.0069	6 / 6	0.061	0.16	0.11	0.11	0.037	0.015
Vanadium	0.020	8 / 8	0.45	0.91	0.71	0.67	0.17	0.059	6 / 6	0.56	1.2	0.79	0.80	0.22	0.091
Zinc	0.20	8 / 8	13	17	16	16	1.9	0.66	6 / 6	10	20	15	15	3.7	1.5

Data for previous monitoring years presented in Appendix 7B, Table 7B-10.

N > DL / N Total = number of samples above DL / sample size; mg/kg = milligram per kilogram wet weight; > = greater than; DL = detection limit; N = sample size; min = minimum; max = maximum; SD = standard deviation; SE = standard error.

7.4.2.2 Temporal Comparisons

7.4.2.2.1 Arctic Char

Tissue Metals

From 2018 to 2024, a total of 113 Arctic Char were analyzed for metals from Milne Port. Summary statistics for metals concentrations from Arctic Char collected in 2024 are provided in Table 7-18 (data from all years are presented as boxplots in Appendix 7C, Figures 7C-1 to 7C-31). Statistical evaluation of trends in COPCs (i.e., aluminum, iron, magnesium, mercury, and selenium) among years (i.e., 2018 to 2024) are provided Table 7-19 and Appendix 7B, Table 7B-12.

Concentrations of many metals were similar among years; however, some demonstrated inter-annual variability (e.g., cadmium, manganese, potassium, selenium, strontium, titanium; Appendix 7C, Figures 7C-1 to 7C-31). Among COPCs, significant temporal trends were observed for aluminum, iron, magnesium, and length-adjusted selenium (Table 7-19; Figure 7-28, Figure 7-29, Figure 7-30, Figure 7-32). No trends were observed for length-adjusted mercury in Arctic Char (Table 7-19; Figure 7-31).

- Trends in rank-transformed aluminum concentrations in Arctic Char demonstrated interannual variability, with concentrations fluctuating across sampling years (Figure 7-28). Concentrations in 2024 were higher than previous sampling years.
- Trends in rank-transformed iron concentrations in Arctic Char demonstrated a low-magnitude increase in mean iron concentrations from 2018 to 2024 (Figure 7-29). However, interannual trends were generally not significant, aside from an increase from 2020 to 2023. Concentrations measured in 2024 were within the range of those measured in previous sampling years.
- Magnesium concentrations in Arctic Char demonstrated a significant increasing trend from 2018 to 2020, after which concentrations remained relatively stable, with no significant trends observed post-2020 (Figure 7-30). Concentrations measured in 2024 were within the range of those measured in previous sampling years.
- Length-adjusted selenium concentrations in Arctic Char demonstrated interannual variability, with mean concentrations fluctuating over sampling years (Figure 7-32), with no consistent temporal trends. Concentrations measured in 2024 were within the range of those measured in previous sampling years.

Mercury concentrations for all Arctic Char sampled from 2018 to 2024 were below Health Canada's Maximum Levels for Chemical Contaminants in Foods mercury consumption guideline of 0.5 mg/kg ww (Health Canada 2015), with tissue mercury concentrations ranging from 0.011 to 0.297 mg/kg ww.

Selenium concentrations for Arctic Char were also below the BC MOE fish tissue guideline of 4 mg/kg dw (BC MOE 2014), with tissue concentrations ranging from 0.912 to 3.19 mg/kg dw from 2018 to 2024.

Table 7-18: Descriptive Statistics for Arctic Char Tissue Chemistry Data Analyzed from 2024

Parameter (mg/kg ww)	DL	2024						
		N > DL / N Total	Min	Max	Median	Mean	SD	SE
Arctic Char								
Aluminum	0.50	8 / 8	0.58	32	1.0	4.9	11	3.9
Antimony	0.0020	7 / 8	<0.0020	0.0068	0.0035	0.0036	0.0016	0.00058
Arsenic	0.0050	8 / 8	0.52	1.7	0.97	1.0	0.35	0.12
Barium	0.010	4 / 8	<0.010	0.087	<0.010	0.019	0.030	0.010
Beryllium	0.0020	0 / 8	<0.0020	<0.0020	<0.0020	<0.0020	-	-
Bismuth	0.0013	0 / 8	<0.0013	<0.0013	<0.0013	<0.0013	-	-
Boron	0.20	0 / 8	<0.20	<0.20	<0.20	<0.20	-	-
Cadmium	0.0013	8 / 8	0.0025	0.023	0.0054	0.0071	0.0065	0.0023
Calcium	4.0	8 / 8	75	250	97	130	76	27
Chromium	0.025	1 / 8	<0.025	<0.025	<0.025	<0.025	-	-
Cobalt	0.0013	8 / 8	0.0039	0.0070	0.0057	0.0055	0.0011	0.00037
Copper	0.013	8 / 8	0.23	0.96	0.44	0.49	0.25	0.089
Iron	0.25	8 / 8	2.4	33	5.4	8.4	10	3.5
Lead	0.0013	8 / 8	0.0017	0.024	0.0042	0.0075	0.0076	0.0027
Magnesium	0.40	8 / 8	260	340	310	310	27	9.5
Manganese	0.010	8 / 8	0.068	0.13	0.10	0.10	0.018	0.0062
Mercury	0.0010 - 0.0020	8 / 8	0.034	0.14	0.051	0.061	0.035	0.012
Molybdenum	0.0080	1 / 8	<0.0080	<0.0080	<0.0080	<0.0080	-	-
Nickel	0.010	6 / 8	<0.010	0.075	0.049	0.040	0.026	0.0090
Phosphorus	2.0	8 / 8	2700	3400	3100	3100	210	74
Potassium	2.5	8 / 8	3900	5000	4600	4600	370	130
Selenium	0.010	8 / 8	0.30	0.48	0.40	0.40	0.071	0.025
Silver	0.0013	0 / 8	<0.0013	<0.0013	<0.0013	<0.0013	-	-
Sodium	2.5	8 / 8	310	460	400	390	53	19
Strontium	0.013	8 / 8	0.13	0.37	0.15	0.20	0.091	0.032
Thallium	0.00040	8 / 8	0.0015	0.0048	0.0022	0.0026	0.0011	0.00039
Tin	0.020	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-
Titanium	0.13	8 / 8	0.36	0.51	0.41	0.42	0.055	0.019
Uranium	0.00040	0 / 8	<0.00040	<0.00040	<0.00040	<0.00040	-	-
Vanadium	0.020	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-
Zinc	0.20	8 / 8	4.0	6.9	5.4	5.4	1.2	0.41

Data for previous monitoring years presented in Appendix 7B, Table 7B-11.

N > DL / N Total = number of samples above DL / sample size; mg/kg ww = milligram per kilogram wet weight; > = greater than; DL = detection limit; SD = Standard deviation; SE = standard error.

Table 7-19: Summary of Inter-annual Comparisons of Constituents of Potential Concern in Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Samples Collected from Milne Port from 2018 to 2024

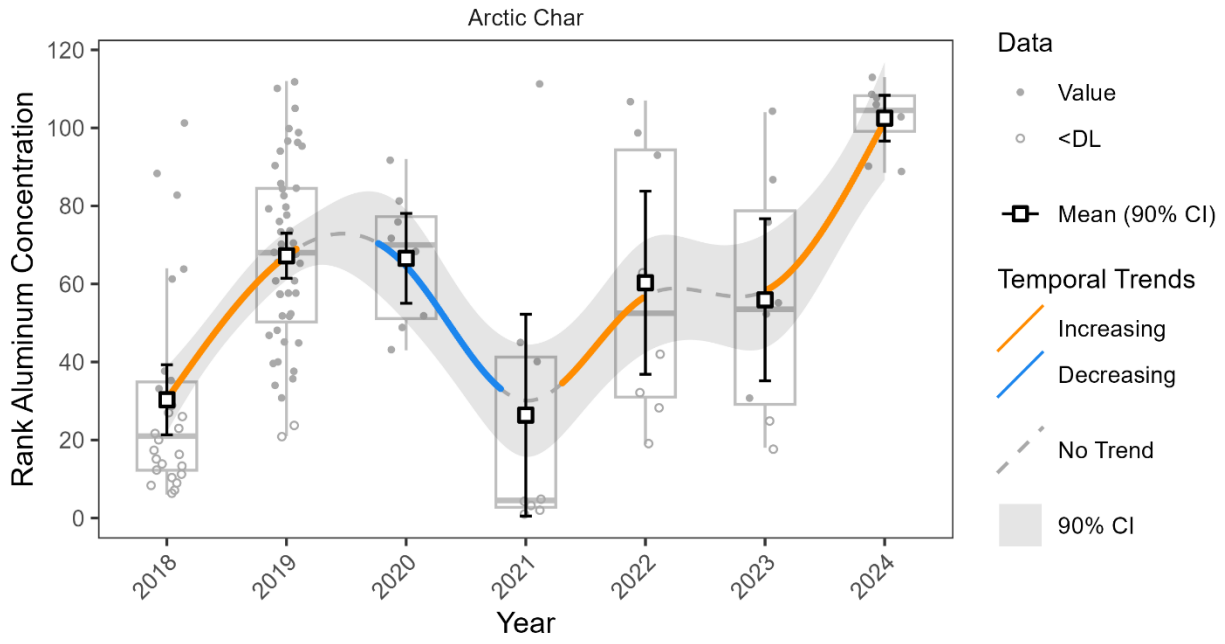
Parameter	Statistical Test	Trend *P*-value	Least Squares Means[a]							Year Trend *P*-value							Year Trend Slope Estimate[b]							Trend Direction[b]						
			2018	2019	2020	2021	2022	2024	2024	2018	2019	2020	2021	2022	2024	2024	2018	2019	2020	2021	2022	2024	2024	2018	2019	2020	2021	2022	2024	2024
Arctic Char																														
Aluminum	GAM_{rank}	**<0.001**	30	67	65	30	57	58	102	**<0.001**	**0.006**	**<0.001**	0.872	**0.078**	**0.093**	**0.002**	44	23	-33	-2	18	15	58	↑	↑	↓	-	↑	↑	↑
Iron	GAM_{rank}	**0.014**	50	53	56	61	66	72	78	0.480	0.255	**0.060**	**0.021**	**0.027**	**0.078**	0.163	3	3	4	5	6	6	6	-	-	↑	↑	↑	↑	-
Magnesium	GAM	**<0.001**	285	301	311	314	311	306	302	**0.001**	**<0.001**	**0.071**	0.916	0.225	0.300	0.626	17.8	13.6	5.8	-0.4	-4.5	-4.6	-3.3	↑	↑	↑	-	-	-	-
Length-Adjusted Mercury	GAM_{log10}	0.977	-1.35	-1.35	-1.35	-1.35	-1.35	-1.35	-1.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Length-Adjusted Selenium	GAM_{log10}	**<0.001**	-0.473	-0.400	-0.478	-0.401	-0.374	-0.421	-0.409	**<0.001**	**0.100**	0.435	**<0.001**	0.191	0.222	0.469	0.125	-0.032	-0.015	0.089	-0.031	-0.026	0.031	↑	↓	-	↑	-	-	-
Fourhorn Sculpin																														
Aluminum	GAM_{log10}	**<0.001**	-	0.329	-0.469	-0.319	-0.152	-0.268	0.114	-	**<0.001**	**<0.001**	**0.002**	0.509	0.347	**0.005**	-	-1.04	-0.30	0.33	-0.067	0.085	0.53	-	↓	↓	↑	-	-	↑
Iron	GAM_{log10}	**0.039**	-	0.940	0.860	0.819	0.819	0.858	0.913	-	**0.040**	**0.015**	0.442	0.433	0.126	0.252	-	-0.088	-0.064	-0.020	0.021	0.050	0.058	-	↓	↓	-	-	-	-
Magnesium	GAM_{log10}	**0.003**	-	2.45	2.45	2.44	2.43	2.41	2.38	-	0.783	0.937	0.228	**0.021**	**0.008**	**0.044**	-	0.004	-0.001	-0.009	-0.019	-0.028	-0.031	-	-	-	-	↓	↓	↓
Length-Adjusted Mercury	GAM_{log10}	**0.002**	-	-0.837	-0.848	-0.738	-0.659	-0.846	-0.805	-	0.570	0.192	**0.001**	**0.039**	**0.004**	0.134	-	-0.038	0.046	0.15	-0.091	-0.12	0.12	-	-	-	↑	↓	↓	-
Length-Adjusted Selenium	GAM_{log10}	**0.003**	-	-0.292	-0.341	-0.325	-0.279	-0.246	-0.265	-	**0.016**	0.166	**0.025**	**0.007**	0.697	0.311	-	-0.065	-0.018	0.039	0.048	0.006	-0.032	-	↓	-	↑	↑	-	-
Hiatella arctica																														
Aluminum	GAM_{rank}	**<0.001**	44	88	78	76	67	43	6	**<0.001**	**0.096**	0.132	0.892	0.121	**0.001**	**0.040**	59	14	-12	-1	-17	-32	-40	↑	↑	-	-	-	↓	↓
Iron	GAM_{rank}	**<0.001**	41	83	80	80	82	77	8	**<0.001**	**0.067**	0.402	0.890	0.590	**0.001**	**<0.001**	55	17	-7	2	6	-35	-86	↑	↑	-	-	-	↓	↓
Magnesium	GAM_{log10}	**<0.001**	3.39	3.58	3.51	3.51	3.47	3.40	2.96	**<0.001**	0.348	0.146	0.771	0.787	**<0.001**	**<0.001**	0.257	0.041	-0.060	-0.016	-0.015	-0.244	-0.536	↑	-	-	-	-	↓	↓
Mercury	GAM_{log10}	**0.044**	-1.60	-1.53	-1.51	-1.51	-1.52	-1.50	-1.43	**0.046**	**0.069**	0.824	0.764	0.938	0.208	0.147	0.076	0.048	0.005	-0.008	-0.002	0.042	0.080	↑	↑	-	-	-	-	-
Selenium	GAM	**0.001**	1.19	1.38	1.35	1.35	1.34	1.39	1.58	**0.001**	0.193	0.446	0.989	0.984	**0.053**	**0.073**	0.256	0.070	-0.040	0.001	-0.001	0.126	0.222	↑	-	-	-	-	↑	↑

Notes: Significant differences indicated in **bold**. Supporting information for statistical model results are provided in Appendix 7B, Table 7B-13.

(a) Least squares means were calculated using regression relationships for regression models for each sampling year. For rank-transformed models, rank least squares means are presented.

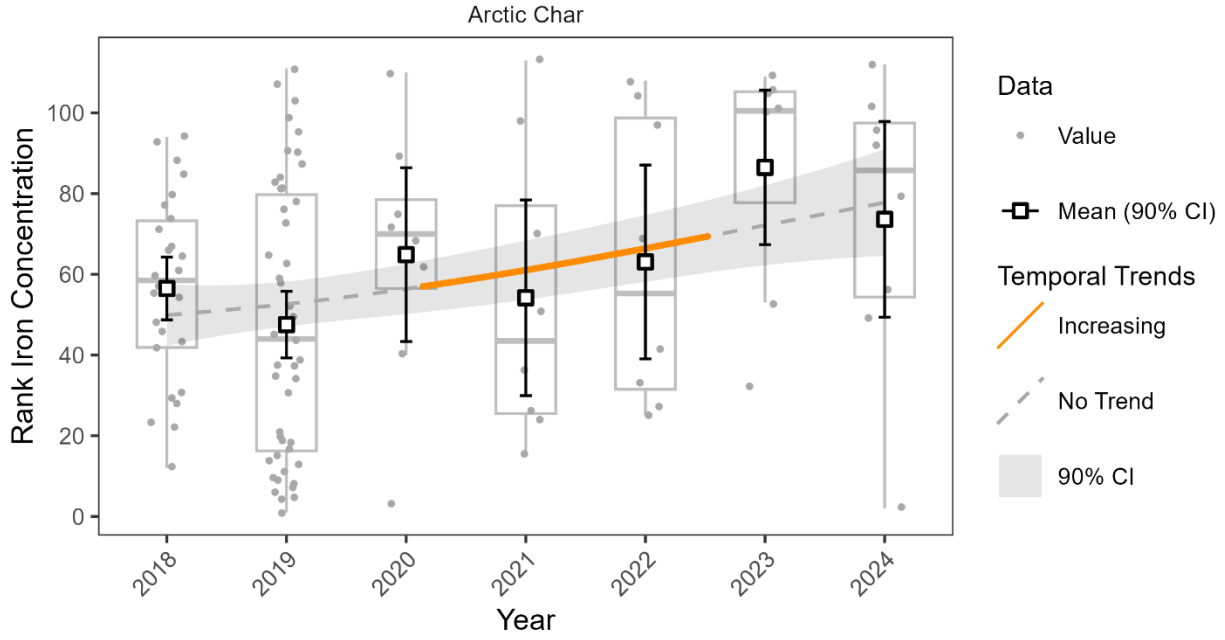
(b) Slope estimates and directions are presented only for statistically significant trends.

GAM = Gaussian additive model; log = log10-transformed data; rank = rank-transformed data; - = not calculated, no data available.



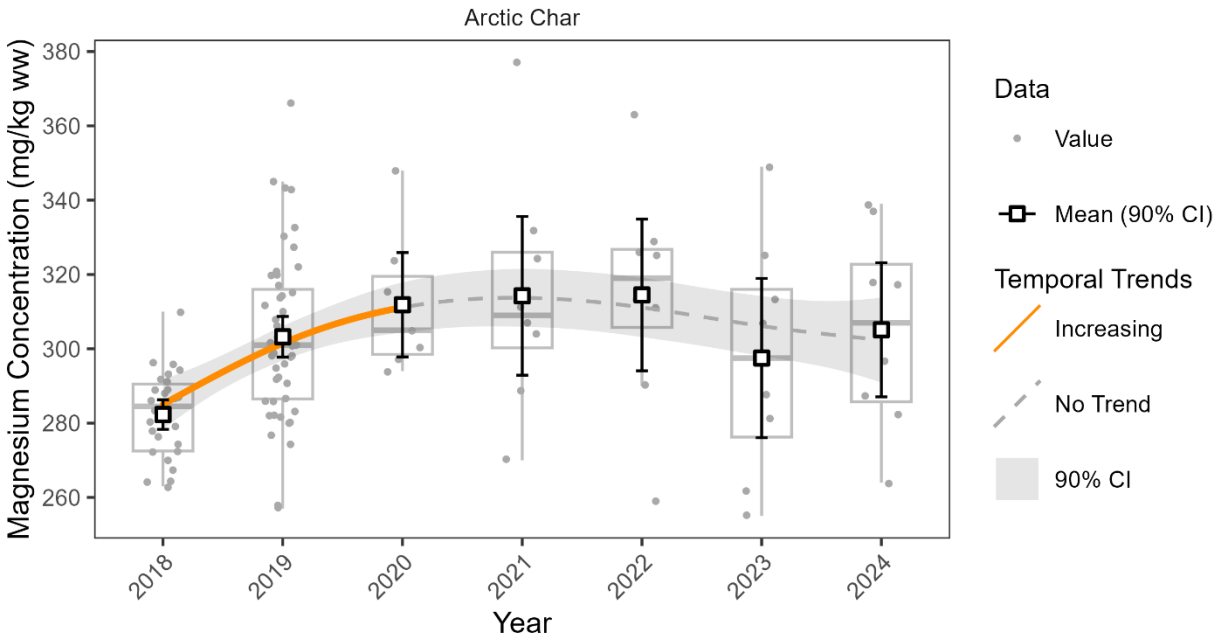
Note: rank transformation results in unitless values.
DL = detection limit; CI = confidence interval.

Figure 7-28: Temporal Trends in Rank Aluminum Concentrations in Arctic Char Sampled from Milne Port, 2018 to 2024



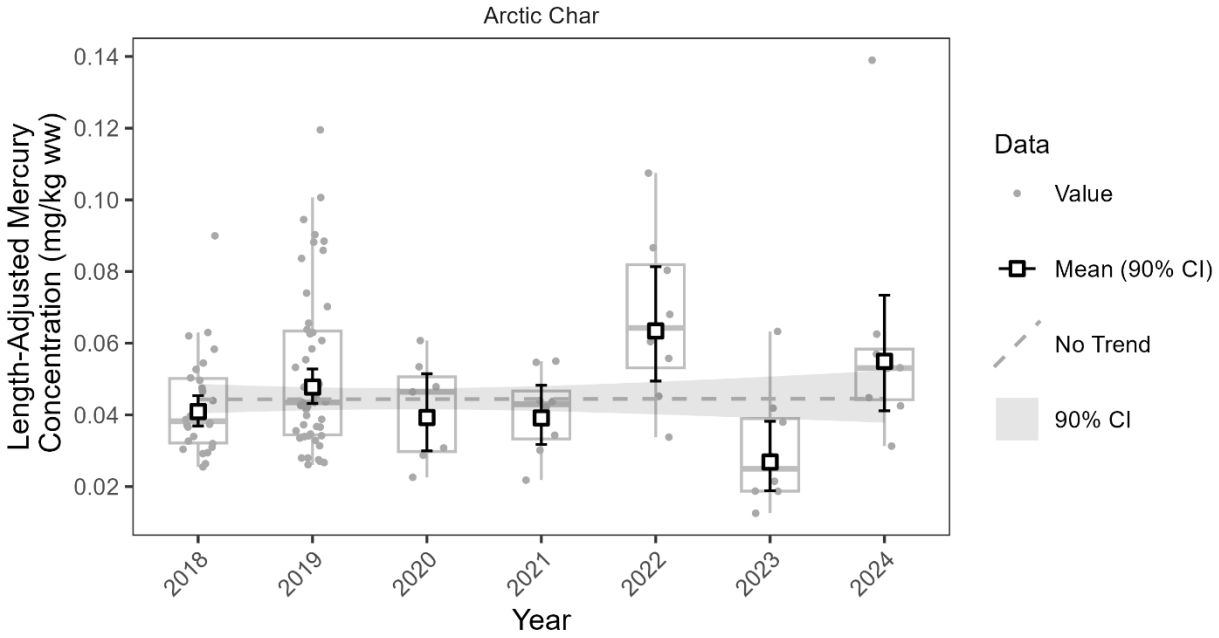
Note: rank transformation results in unitless values.
CI = confidence interval.

Figure 7-29: Temporal Trends in Rank Iron Concentrations in Arctic Char Sampled from Milne Port, 2018 to 2024.



CI = confidence interval.

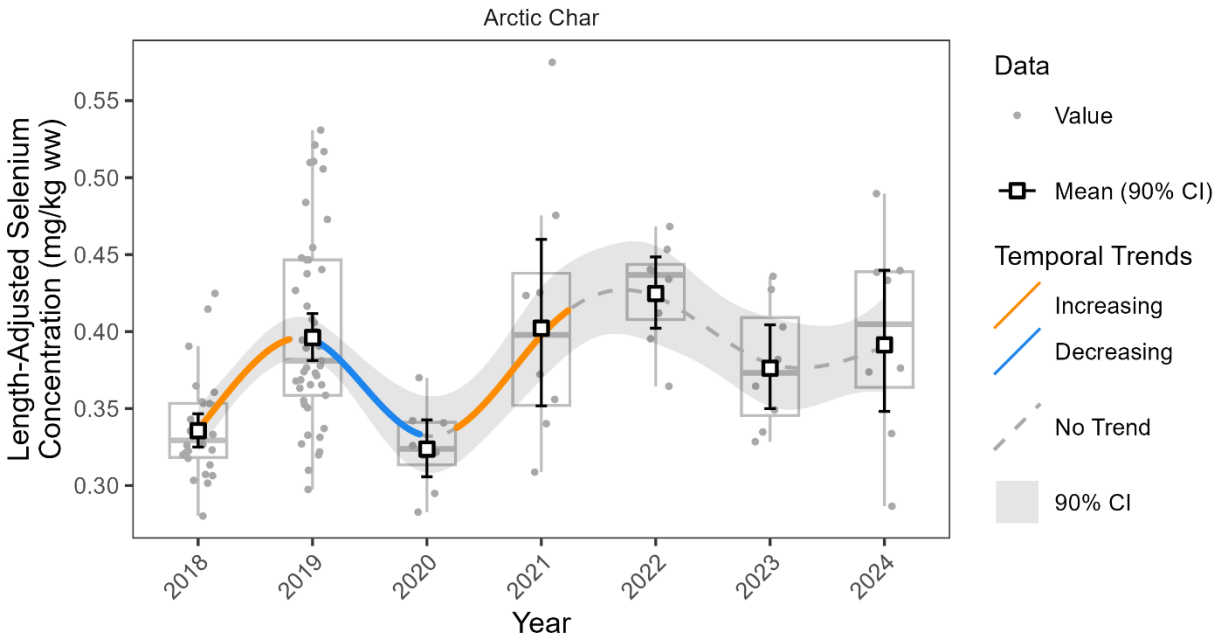
Figure 7-30: Temporal Trends in Magnesium Concentrations in Arctic Char Sampled from Milne Port, 2018 to 2024.



Note: Concentrations were adjusted to 399 mm fork length prior to temporal trend assessment. One fish (FIN: BAFF-20-U-MLN-GN18-ARCH-003) captured in 2020 was omitted as a statistical outlier.

CI = confidence interval.

Figure 7-31: Temporal Trends in Length-Adjusted Mercury Concentrations in Arctic Char Sampled from Milne Port, 2018 to 2024.



Note: Concentrations were adjusted to 399 mm fork length prior to temporal trend assessment. One fish (FIN: GN7-P1 19-072-157) captured in 2019 was omitted as a statistical outlier.

CI = confidence interval.

Figure 7-32: Temporal Trends in Length-Adjusted Selenium Concentrations in Arctic Char Sampled from Milne Port, 2018 to 2024.

Polycyclic Aromatic Hydrocarbons

From 2010 to 2023, a total of 64 Arctic Char were analyzed for polycyclic aromatic hydrocarbons (PAHs) from Milne Port. In 2024, a total of eight Arctic Char were analyzed for PAHs in muscle tissue. Concentrations of PAHs were below DLs for all parameters analyzed in Arctic Char (Appendix 7B, Table 7B-6).

Results of chemical analyses of metals and PAHs in Arctic Char tissues were within FEIS predictions and subsequent addenda, which are consistent with low magnitude increases in fish tissue concentrations of metals and/or PAHs associated with Project activities. These results do not exceed predicted effects on fish tissue chemistry due to Project activities.

7.4.2.2.2 Fourhorn Sculpin

Tissue Metals

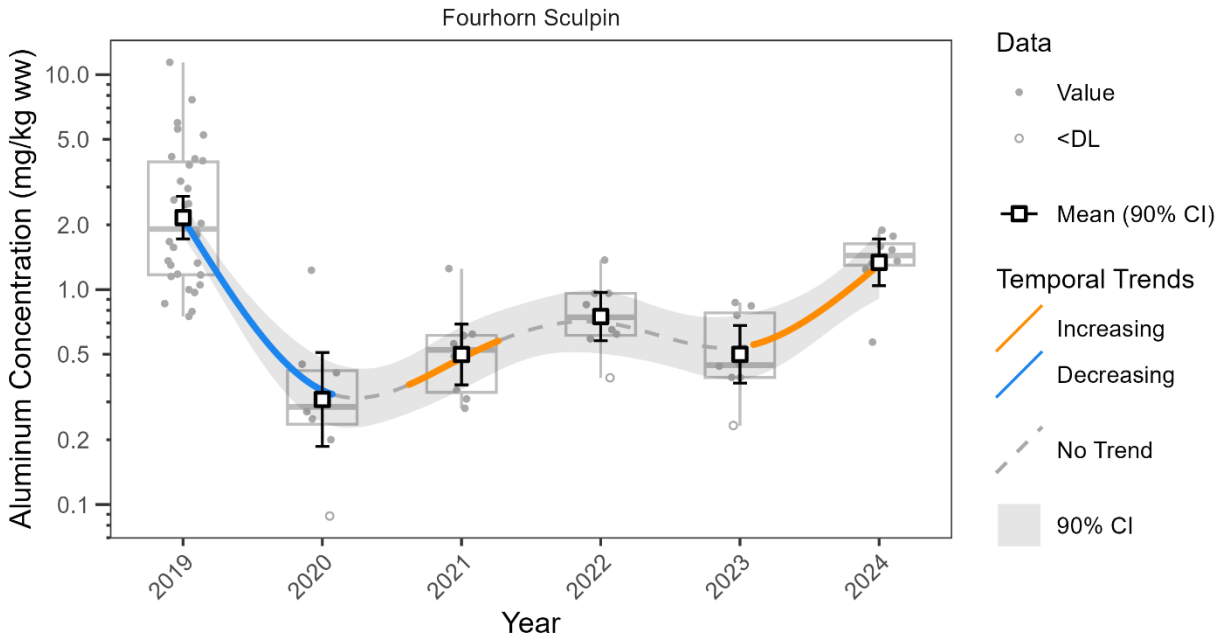
A total of 70 Fourhorn Sculpin samples were analyzed for metals from Milne Port from 2019 to 2024, including 30 samples in 2019, and eight samples in 2020, 2021, 2022, 2023, and 2024, respectively. Summary statistics for metals concentrations in 2023 are provided in Table 7-15; results from all monitoring years are presented as boxplots in Appendix 7C, Figures 7C-1 to 7C-31 and as summary statistics in Appendix 7B, Tables 7B-9 to 7B-11. Statistical comparisons for COPCs among years are provided in Table 7-19 and Appendix 7B, Table 7B-12.

Concentrations of metals in Fourhorn Sculpin were generally more variable than Arctic Char (Section 7.4.2.2.1). Significant trends among years were observed for all COPCs (i.e., aluminum, iron, magnesium, length-adjusted mercury, length-adjusted selenium; Table 7-19).

- Trends in mean aluminum concentrations demonstrated interannual variability over years, with a low magnitude increase in mean concentrations from 2020 to 2024 (Figure 7-33). Concentrations decreased significantly from 2019 to 2020, by a factor of approximately six, but have generally increased since 2020. Measured concentrations in 2024 were above those measured from 2020 to 2023, but within the range of those measured in 2019.
- Iron concentrations in Fourhorn Sculpin demonstrated a significant decreasing trend from 2019 to 2020, after which concentrations have remained relatively stable, with no significant trends observed post-2020 (Figure 7-34). Concentrations measured in 2024 were within the range of those measured in previous sampling years.
- Magnesium concentrations in Fourhorn Sculpin were relatively stable from 2019 to 2022, showing no trends (Figure 7-35). However, concentrations have decreased significantly from 2022 to 2024. Concentrations measured in 2024 were within the range of those measured in previous sampling years.
- Length-adjusted mercury concentrations in Fourhorn Sculpin demonstrated interannual variability with no consistent temporal trends observed (Figure 7-36). Mean concentrations were stable from 2019 to 2020, increased from 2020 to 2022, and decreased from 2022 to 2023, after which they remained stable. Concentrations measured in 2024 were below those measured in 2022 and were within the range of those measured in other sampling years.
- Length-adjusted selenium concentrations in Fourhorn Sculpin demonstrated interannual variability, with a low-magnitude increasing trend observed from 2020 to 2023 (Figure 7-37). Concentrations measured in 2024 were comparable to those measured in 2023 and were within the range of concentrations measured in previous sampling years.

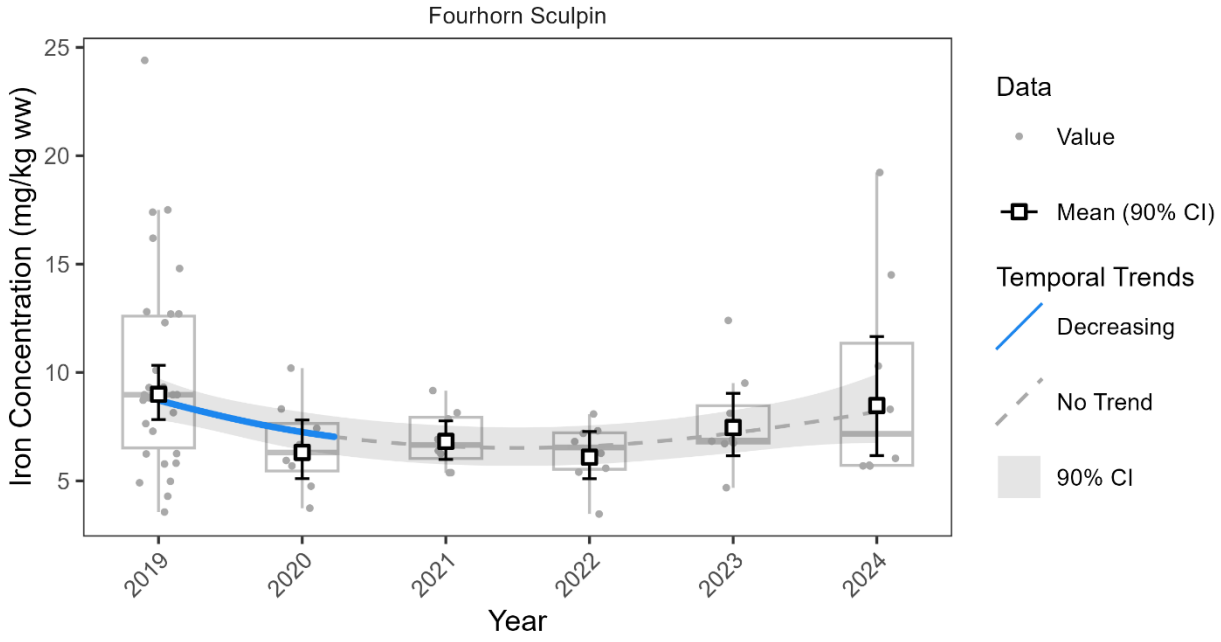
Mercury concentrations for all Fourhorn Sculpin sampled from 2019 to 2024 were below Health Canada's Maximum Levels for Chemical Contaminants in Foods mercury consumption guideline of 0.5 mg/kg ww (Health Canada 2015), ranging from 0.039 to 0.43 mg/kg ww.

Selenium concentrations were also below BC MOE fish tissue guideline of 4 mg/kg dw (BC MOE 2014) in all Fourhorn Sculpin captured in Milne Port, ranging from 1.72 to 3.57 mg/kg dw from 2019 to 2024. In Koluktoo Bay Fourhorn Sculpin were below the BC MOE selenium guideline, ranging from 2.12 to 3.72 mg/kg dw, with the exception of one fish sampled in 2024 (FIN: BAFF24UKLKFHSC2004; 4.20 mg/kg dw selenium).



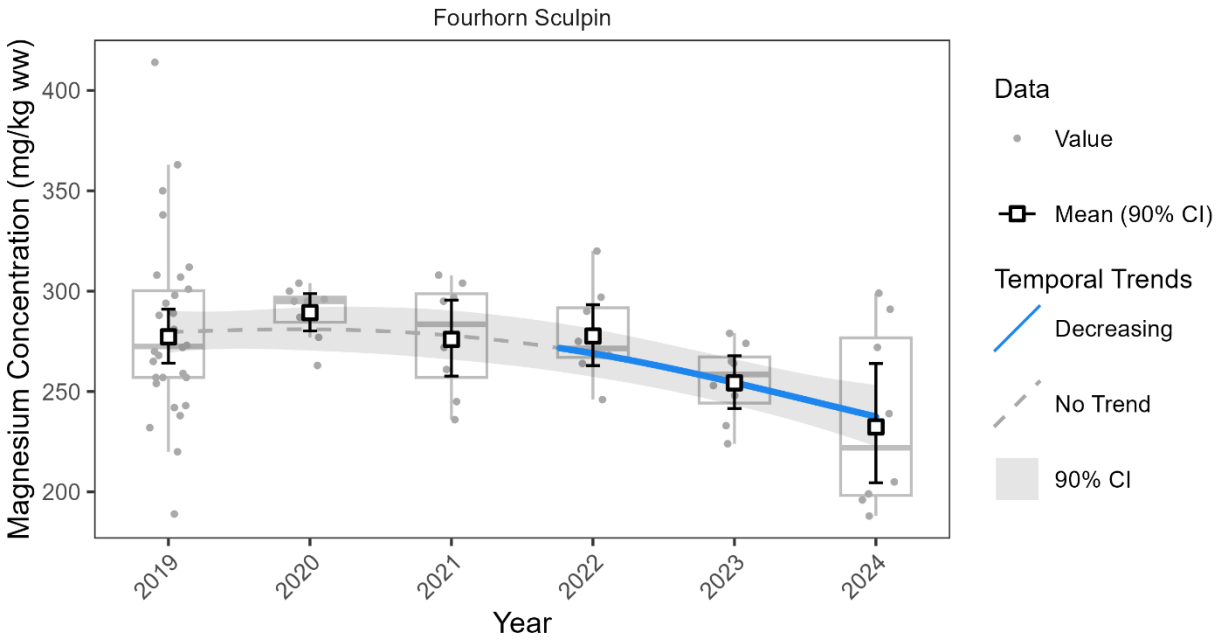
Note: y-axis is log_{10}-scaled to improve interpretability.
DL = detection limit; CI = confidence interval.

Figure 7-33: Temporal Trends in Aluminum Concentrations in Fourhorn Sculpin Sampled from Milne Port, 2019 to 2024



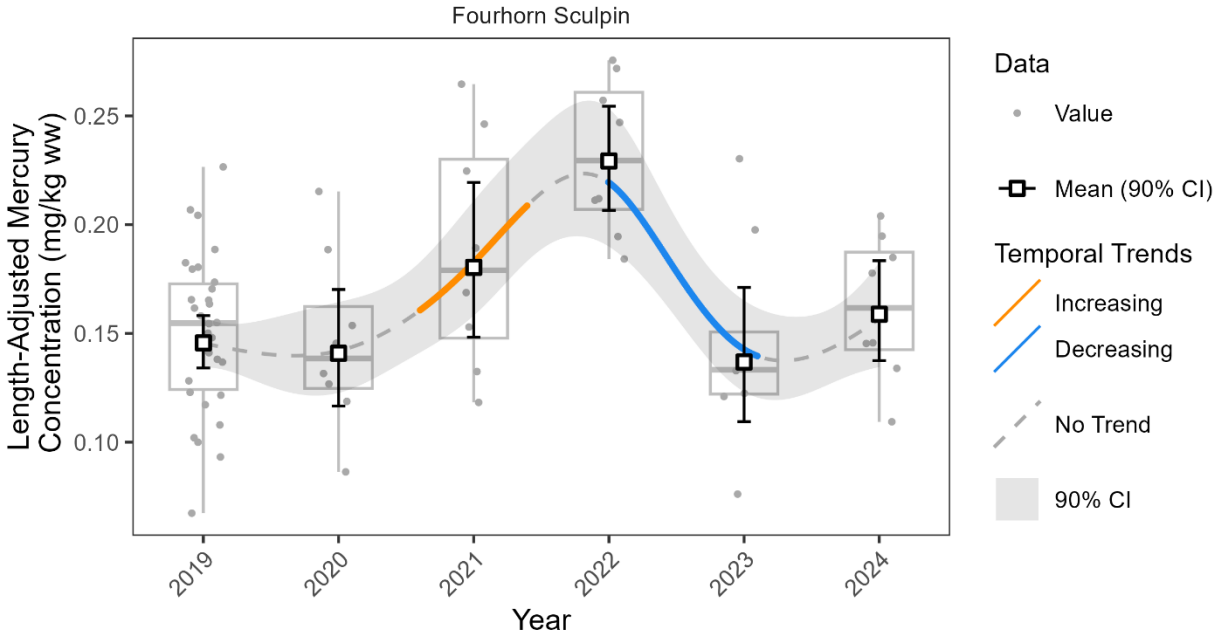
CI = confidence interval.

Figure 7-34: Temporal Trends in Iron Concentrations in Fourhorn Sculpin Sampled from Milne Port, 2019 to 2024



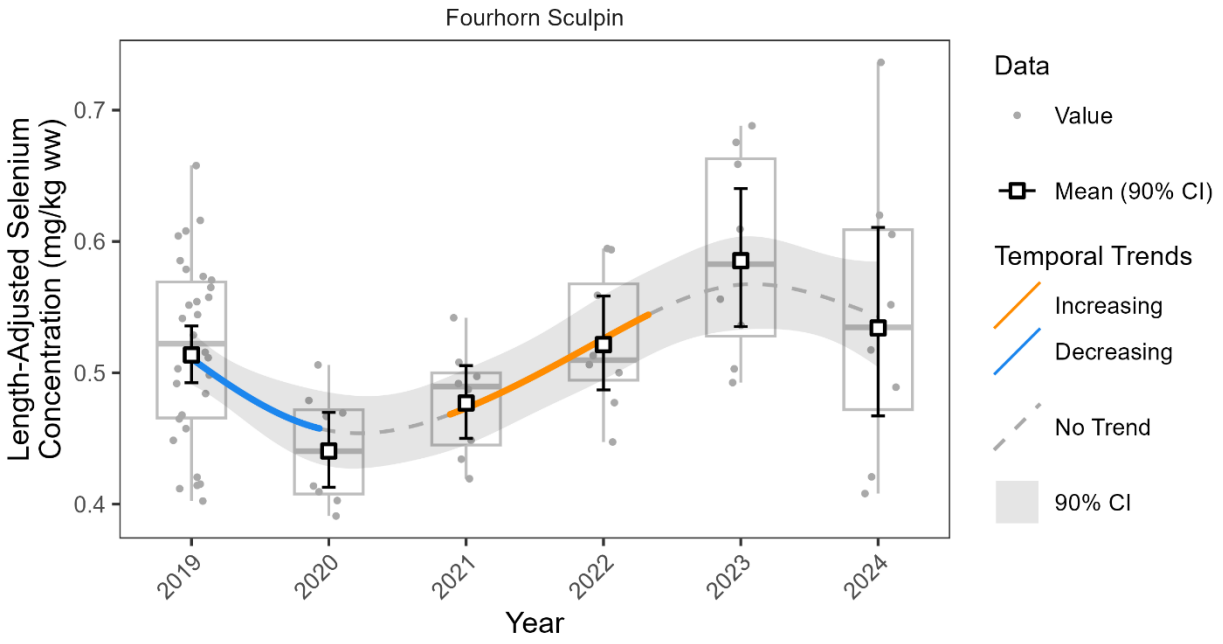
CI = confidence interval.

Figure 7-35: Temporal Trends in Magnesium Concentrations in Fourhorn Sculpin Sampled from Milne Port, 2019 to 2024



CI = confidence interval.

Figure 7-36: Temporal Trends in Length-Adjusted Mercury Concentrations in Fourhorn Sculpin Sampled from Milne Port, 2019 to 2024



CI = confidence interval.

Figure 7-37: Temporal Trends in Length-Adjusted Selenium Concentrations in Fourhorn Sculpin Sampled from Milne Port, 2019 to 2024

Polycyclic Aromatic Hydrocarbons

From 2020 to 2024, a total of 40 Fourhorn Sculpin samples have been analyzed for PAHs, comprising eight samples per year. In 2024, eight Fourhorn Sculpin were analyzed for PAHs in muscle tissue. Polycyclic aromatic hydrocarbons were below DL for all parameters analyzed in Fourhorn Sculpin (Appendix 7B, Table 7B-7).

Results of chemical analyses of metals and PAHs in Fourhorn Sculpin tissues were within FEIS predictions and subsequent addenda, which indicated the potential for low magnitude increases in fish tissue concentrations of metals and/or PAHs associated with Project activities. Results presented herein do not exceed predicted effects on fish tissue chemistry due to Project activities.

7.4.2.2.3 Hiatella arctica

Tissue Metals

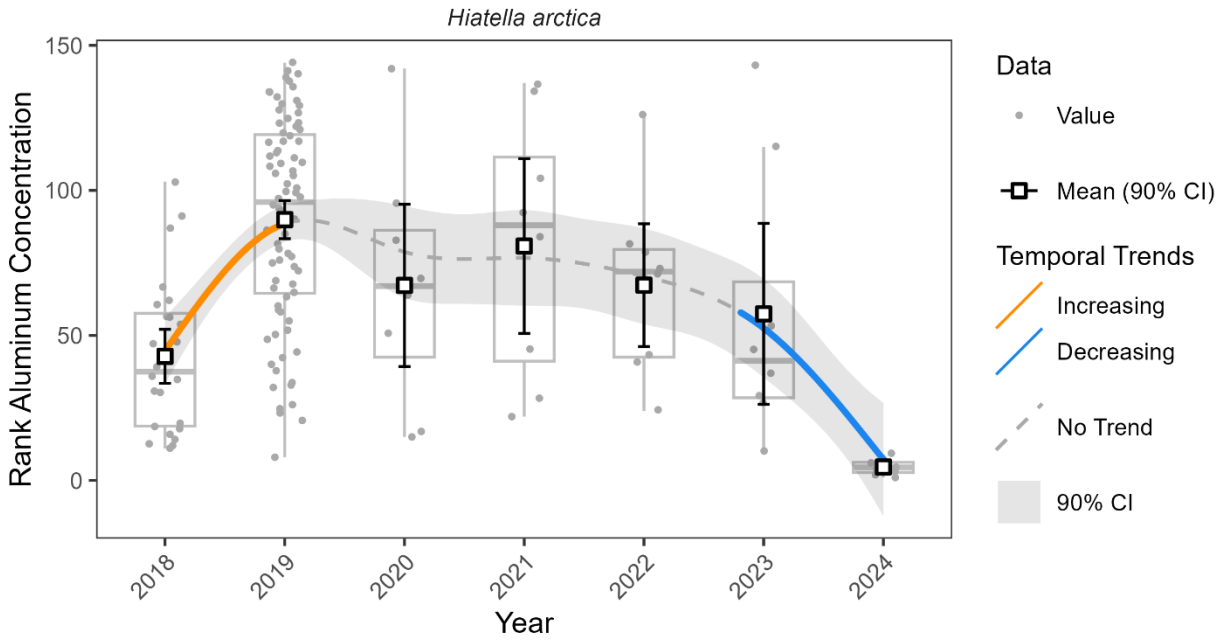
A total of 144 *H. arctica* samples were analyzed for metals from Milne Port from 2018 to 2024, including 24 samples in 2018, 80 in 2019, eight in 2020, eight in 2021, eight in 2022, eight in 2023, and eight in 2024. Summary statistics for *H. arctica* metals concentrations are provided in Table 7-17 and these results are presented as boxplots in Appendix 7C, Figures 7C-1 to 7C-31. Statistical comparisons for COPCs among years are provided in Table 7-19 and Appendix 7B, Table 7B-12.

Concentrations of metals in *H. arctica* tissue were generally similar among years with a few exceptions. Chromium, molybdenum, nickel, tin, and titanium exhibited more interannual variability compared to other metals (Appendix 7C). Greater concentrations of most metals were observed for *H. arctica* when compared to Arctic Char and Fourhorn Sculpin (Appendix 7C, Figures 7C-1 to 7C-31). Differences in species-specific bioaccumulation processes (e.g., filter feeder versus non-filter feeder) and tissue type (i.e., whole body versus muscle) likely contributed to the interspecies differences in tissue metal concentrations observed, with molluscs typically accumulating greater concentrations of some metals compared to fish (Bonsignore et al. 2018).

Significant trends in concentrations were observed for all COPCs (i.e., aluminum, iron, magnesium, mercury, selenium; Table 7-19).

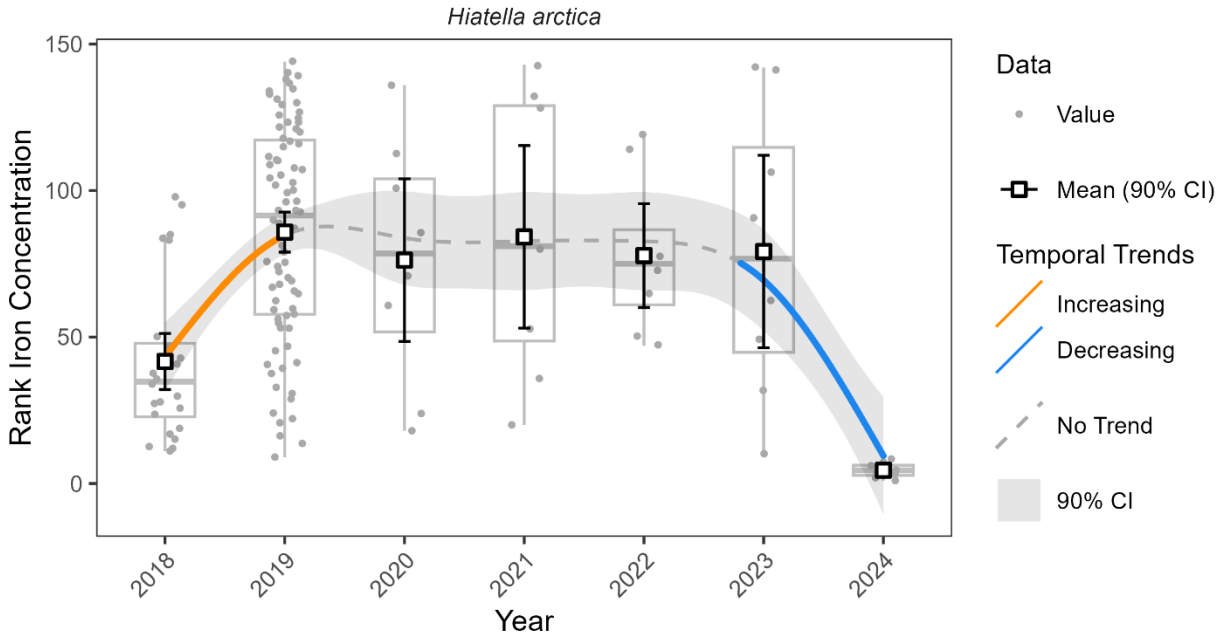
- Aluminum and iron demonstrated similar trends over time, whereby concentrations increased significantly from 2018 to 2019, then remained relatively stable from 2019 to 2023, after which they decreased to 2024 (Figure 7-38; Figure 7-39). Concentrations of both COPCs measured in 2024 were lower than those measured in previous sampling years.
- Trends in magnesium were visually similar to those of aluminum and iron (Figure 7-40). Magnesium concentrations had increased from 2018 to 2029, remained relatively stable from 2019 to 2023, after which they decreased to 2024. Concentrations measured in 2024 were lower than those measured in previous sampling years.
- Mercury and selenium also demonstrated similar trends over time (Figure 7-41; Figure 7-42). Concentrations increased significantly from 2018 to 2019, then remained relatively stable from 2019 to 2023. Despite appearing elevated relative to previous years, mercury and selenium concentrations measured in 2024 were not significantly greater than previous years.

For all COPCs, interannual variability appears to be the main driver of observed trends, as no consistent changes over time have been noted and the magnitude of observed trends is not considered ecologically relevant.



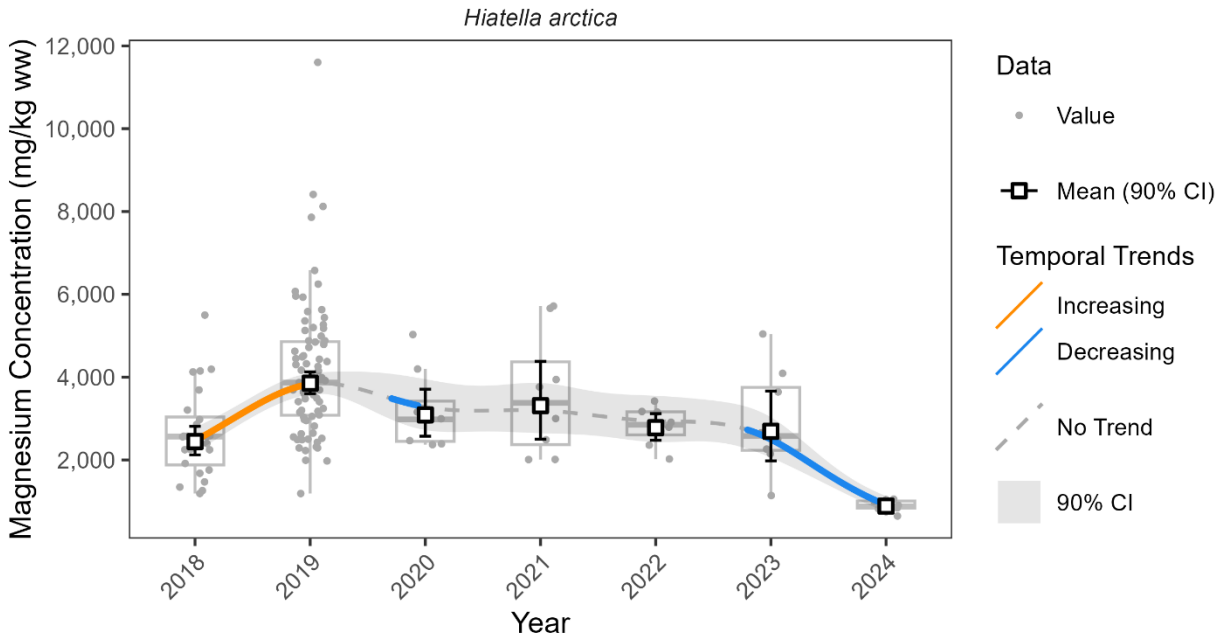
Note: y-axis is $\log_{10}$-scaled to improve interpretability. DL = detection limit; CI = confidence interval.

Figure 7-38: Temporal Trends in Aluminum Concentrations in *Hiatella arctica* Sampled from Milne Port, 2018 to 2024



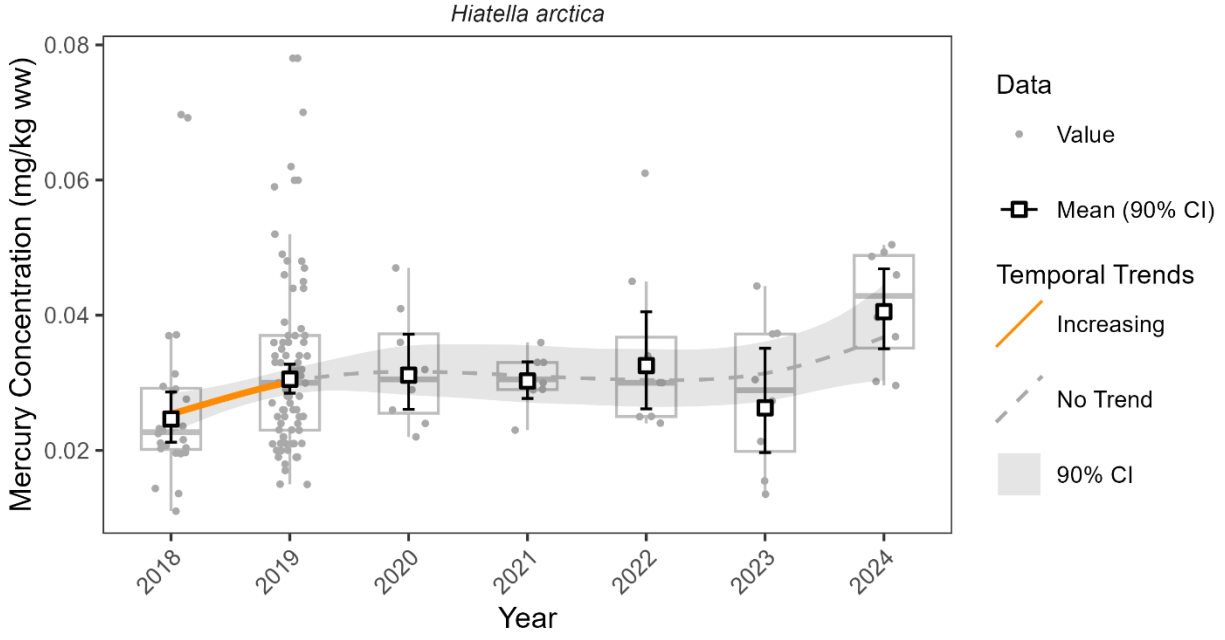
Note: y-axis is $\log_{10}$-scaled to improve interpretability. DL = detection limit; CI = confidence interval.

Figure 7-39: Temporal Trends in Iron Concentrations in *Hiatella arctica* Sampled from Milne Port, 2018 to 2024



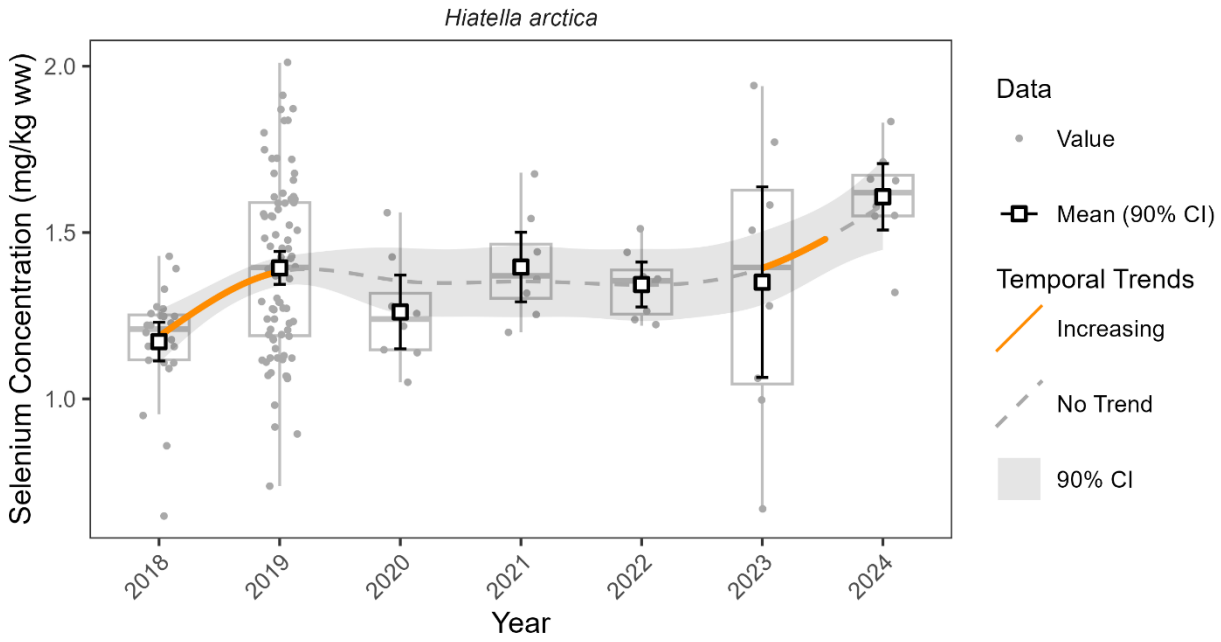
DL = detection limit; CI = confidence interval.

Figure 7-40: Temporal Trends in Magnesium Concentrations in *Hiatella arctica* Sampled from Milne Port, 2018 to 2024



Note: y-axis is $\log_{10}$-scaled to improve interpretability. DL = detection limit; CI = confidence interval.

Figure 7-41: Temporal Trends in Mercury Concentrations in *Hiatella arctica* Sampled from Milne Port, 2018 to 2024



Note: y-axis is $\log_{10}$-scaled to improve interpretability. DL = detection limit; CI = confidence interval.

Figure 7-42: Temporal Trends in Selenium Concentrations in *Hiatella arctica* Sampled from Milne Port, 2018 to 2024

Polycyclic Aromatic Hydrocarbons

From 2020 to 2023, a total of 22 samples of *H. arctica* were analyzed for PAHs. In 2024, no tissue samples of *H. arctica* were analyzed for PAHs, due to low sample masses and the high mass requirements for PAHs compared to metals analysis (Appendix 7B, Table 7B-8); however, PAH concentrations in *H. arctica* have consistently been below DL since 2020.

Results of chemical analyses of metals and PAHs in *Hiatella arctica* tissues were within FEIS predictions and subsequent addenda, which indicated the potential for low magnitude increases in fish tissue concentrations of metals and/or PAHs associated with Project activities. Results presented herein do not exceed predicted effects on fish tissue chemistry due to Project activities.

7.5 TARP Assessment

7.5.1 Fish Health

Results of fish health endpoint assessments were screened against the TARP criteria (Table 7-20). The 'Low Risk' threshold was exceeded for endpoints that were significantly different between Milne Port and the relevant reference area, with a magnitude of effect exceeding the CES. In addition, the direction of effect must be indicative of a potential impairment to fish health. In 2024, one fish health endpoint in Fourhorn Sculpin exceeded the 'Low Risk' threshold: male Fourhorn Sculpin relative liver weight was significantly different between Milne Port and Koluktoo Bay, and the associated effect size (-26%) exceeded the CES (±25%) in a direction indicative of potential impairment to fish health. No additional endpoints for Fourhorn Sculpin exceeded TARP thresholds.

For *H. arctica*, three fish health endpoints exceeded the 'Low Risk' threshold: whole animal ww, condition (as relative total weight), and relative shell weight were all significantly lower in *H. arctica* from Milne Port compared to Tugaat River Estuary, and the associated effect sizes (-22%, -13%, -20%, respectively) were in a direction indicative of potential impairment to fish health. There are currently no CES values associated with shellfish health endpoints. No additional endpoints for *H. arctica* exceeded TARP thresholds.

Table 7-20: Comparison of Fish Health Endpoints for Fourhorn Sculpin and *Hiatella arctica* with TARP Thresholds, MEEMP 2024

TARP Performance Indicators	CES	2024 MEEMP Results (Effect Size)		TARP Threshold Exceeded	
		Female	Male	Female	Male
Fourhorn Sculpin					
Age	±25%	=	=	None	None
Size-at-age (i.e., total weight at age)	±25%	**Milne > Reference** (36%)	**Milne > Reference** (30%)	None	None
Condition as relative total weight (i.e., total weight at total length)	±10%	Milne < Reference (-7%)	=	None	None
Relative liver weight (i.e., liver weight at total weight)	±25%	**=**	**Milne < Reference** (-26%)	None	Low Risk
Relative gonad weight (i.e., gonad weight at total weight)	±25%	=	=	None	None
Hiatella arctica					
Length-frequency analysis	-[(a)]	=		None	
Whole animal wet weight	-[(a)]	**Milne < Reference** (-22%)		Low Risk[(b)]	
Condition as relative total weight (i.e., whole animal wet weight at total length)	-[(a)]	**Milne < Reference** (-13%)		Low Risk[(b)]	
Relative shell weight (i.e., dry shell weight at total length)	-[(a)]	**Milne < Reference** (-20%)		Low Risk[(b)]	
Relative gonad weight (i.e., gonad weight at whole animal wet weight)	-[(a)]	=		None	

Effect sizes are shown in parentheses. Non-bolded values indicate a significant difference ($P < 0.10$) that does not exceed the CES. **Bold** text indicates a significant difference ($P < 0.10$). Underlined text indicates a magnitude of effect greater than the CES in a direction indicative of a potential impairment to fish health.
(a) There are no critical effect sizes associated with shellfish health endpoints (Environment Canada 2012).
(b) In the absence of CES values for shellfish health endpoints, a conservative assessment was applied, wherein significant differences in a direction potentially indicative of an impairment to shellfish health were considered Low Risk.
TARP = Trigger Action Response Plan; '=' = no statistically significant difference ($P > 0.10$); '-' = not applicable.

7.5.2 Fish Tissue Chemistry

Results of fish tissue chemistry assessments were screened against the TARP criteria (Table 7-21). In 2024, concentrations of all COPCs in Fourhorn Sculpin did not differ between Milne Port and Koluktoo Bay. For *H. arctica*, concentrations of aluminum and selenium were significantly lower in Milne Port compared to Tugaat River Estuary. However, the magnitudes of observed effects for *H. arctica* were below the CES (+100%) or in a direction not consistent with Project-related effects. Thus, no fish tissue chemistry endpoints exceeded TARP thresholds in 2024.

Table 7-21: Comparison of Fish Tissue Chemistry Endpoints for Fourhorn Sculpin and *Hiatella arctica* with TARP Thresholds, MEEMP 2024

TARP Performance Indicators	2024 MEEMP Results (Effect Size)	TARP Threshold Exceeded
Fourhorn Sculpin		
Aluminum	=	None
Iron	=	None
Magnesium	=	None
Mercury	=	None
Selenium	=	None
Hiatella arctica		
Aluminum	Milne < Tugaat (-49%)	None
Iron	=	None
Magnesium	=	None
Mercury	=	None
Selenium	Milne < Tugaat (-14%)	None

Unbolded text indicates a significant difference ($P < 0.10$) with a magnitude of effect below the CES.
TARP = Trigger Action Response Plan; '=' = no statistically significant difference ($P > 0.10$).

7.6 Discussion

7.6.1 Fish Health

Detailed fish health data were collected for Fourhorn Sculpin and *H. arctica* from Milne Port annually from 2020 to 2024 and from reference areas in 2023 and 2024 (i.e., Koluktoo Bay [Fourhorn Sculpin] and Tugaat River Estuary [*H. arctica*]). In addition, biometric data for Arctic Char were collected from incidental mortalities from Milne Inlet annually from 2021 to 2024, to support the evaluation of Arctic Char health and condition. A summary of results of the fish health assessment for Fourhorn Sculpin and *H. arctica* is provided in Table 7-22 and Table 7-23, respectively.

For Arctic Char, condition factor varied over sampling years with no consistent trend. Mean condition factor increased from 2021 to 2022, decreased from 2022 to 2023, and increased from 2023 to 2024. Observed variation in Arctic Char condition factor likely reflected natural variability attributable to seasonal and interannual differences in the Arctic Char population of Milne Inlet.

For Fourhorn Sculpin, several fish health endpoints differed between Milne Port and Koluktoo Bay (Table 7-22). In both female and male Fourhorn Sculpin, size-at-age was significantly greater at Milne Port compared to Koluktoo Bay, with a magnitude of effect exceeding the CES. However, the direction of effect did not indicate potential impairment to fish health, as Fourhorn Sculpin at Milne Port appeared to be growing faster (i.e., larger size-at-age) compared to Koluktoo Bay. Similar trends in size-at-age for female and male Fourhorn Sculpin at Milne Port over time indicated steady increases in mean size-at-age from 2020 to 2022/2023 for each sex, respectively. Potential differences in prey availability, indicated by stomach contents, may be contributing to observed differences in size-at-age between Milne Port and Koluktoo Bay. Fourhorn Sculpin in Milne Port appear to consume relatively more trumpet worms (i.e., pectinariid worms) and fish and fewer crustaceans compared to Fourhorn Sculpin in Koluktoo Bay. In addition, condition (as relative total weight) for female Fourhorn Sculpin was significantly lower in Milne Port compared to Koluktoo Bay, but the magnitude of effect was less than the CES. No difference in condition was observed for male Fourhorn Sculpin.

Relative liver weight was significantly lower for male Fourhorn Sculpin in Milne Port compared to those in Koluktoo Bay, with a magnitude of effect exceeding the CES. This CES exceedance resulted in a ‘Low Risk’ TARP threshold exceedance. No differences were observed for female Fourhorn Sculpin relative liver weight between sampling areas. Trends in relative liver weight for male Fourhorn Sculpin in Milne Port demonstrated no consistent changes over time but instead were considered to reflect natural interannual variability. Mean LSI, a metric for relative liver weight, has varied by 5-49% (as RPD) among sampling years for male Fourhorn Sculpin in Milne Port. Similar interannual variation in LSI for male Fourhorn Sculpin was observed in fish sampled from Koluktoo Bay (18% as RPD, between 2023 and 2024). Interannual variability in LSI has been observed in many marine and freshwater fish species (e.g. Nunes et al. 2011; Rodgveller 2019; Scott and Pankhurst 1992; Vidal et al. 2020; Yaragina and Marshall 2000) as populations respond to long-term environmental fluctuations. These studies suggest that interannual variation in LSI exceeding 30% is not abnormal within a given population. The observed range of interannual variability and the absence of a consistent trend in relative liver weight over time in Milne Port together suggest the observed difference in relative liver weight for male Fourhorn Sculpin between Milne Port and Koluktoo Bay may be a result of interannual variability. Continued monitoring will provide additional insight into the variability of fish health endpoints for this fish species.

Some *H. arctica* health endpoints differed between Milne Port and Tugaat River Estuary (Table 7-23). Whole animal weight, condition (as relative whole animal wet weight), and relative shell weight were all significantly lower in Milne Port compared to Tugaat River Estuary. Temporal trends support some of these findings (Table 7-23). Significant decreasing trends were observed from 2023 to 2024 in whole animal wet weight and condition. No trends were observed for relative shell weight. In addition, length frequency distributions differed significantly between 2023 and 2024, where median *H. arctica* total length was lower in 2024 compared to 2023. Given the limited data currently available for *H. arctica* in Milne Port (i.e., four years) and for Tugaat River Estuary (i.e., three years), it is uncertain whether observed differences represent expected variability within the species or if differences are indicative of potential effects of localized stressors. Given the wide range of ages reported in the sampled population of *H. arctica* from both Milne Port and Tugaat River Estuary (i.e., 5 to 82 years), it is expected that growth and condition would vary within the species depending on stage of life. At present, little is known about age-length relationships for *H. arctica*. Differences in *H. arctica* health endpoints have not previously been observed.

Sample timing of *H. arctica* appears to be appropriate for assessing reproductive endpoints, as gonads were retrieved from collected samples in 2021, 2022, 2023, and 2024 from Milne Port, and in 2022, 2023, and 2024 from Tugaat River Estuary. Some variability in relative gonad weight was observed over time (Table 7-23),

suggesting natural variability in spawning timing for this shellfish. Timing of spawning for *H. arctica* may be associated with phytoplankton biomass and varies with geographical location (Brandner et al. 2017). Gonadal development for this species may also be asynchronous, with multiple overlapping spawning events occurring throughout the year, potentially leading to a high degree of variability in gonad size regardless of sample timing. While MSI data from 2024 do not exhibit high variability, observed differences between 2021, 2022, 2023, and 2024 indicate considerable interannual variability in gonadal development. Additional data collected in future years will improve understanding of the variability in gonadal development for *H. arctica*.

Results of the fish health analysis for Arctic Char, Fourhorn Sculpin, and *Hiatella arctica* were within FEIS predictions and subsequent addenda, which indicated the potential for low magnitude reductions in fish health and condition associated with Project activities. Results presented herein do not exceed predicted effects on fish health due to Project activities.

Table 7-22: Summary of Results of Fish Health Assessment for Fourhorn Sculpin, MEEMP 2024

Fish Health Endpoint	CES	Fourhorn Sculpin (Effect Size)	
		Female	Male
Spatial Comparisons			
Age	±25%	-	-
Size-at-age (i.e., total weight at age)	±25%	Milne > Reference (**36%**)	Milne > Reference (**30%**)
Condition as relative total weight (i.e., total weight at total length)	±10%	Milne < Reference (-7%)	-
Relative liver weight (i.e., liver weight at total weight)	±25%	=	Milne < Reference (**-26%**)
Relative gonad weight (i.e., gonad weight at total weight)	±25%	-	-
Temporal Comparisons			
Age	n/a	Increasing in past years 2020 ↑ 2021 ↑ 2022, 2023, 2024	Increasing in past years 2020 ↑ 2021 ↑ 2022, 2023, 2024
Size-at-age (i.e., total weight at age)	n/a	Increasing in past years 2020 ↑ 2021 ↑ 2022, 2023, 2024	Increasing in past years 2020 ↑ 2021 ↑ 2022 ↑ 2023, 2024
Condition as relative total weight (i.e., total weight at total length)	n/a	No consistent trends 2020 ↓ 2021 ↑ 2022 ↑ 2023 ↓ 2024	No consistent trends 2020 ↓ 2021, 2022 ↑ 2023, 2024
Relative liver weight (i.e., liver weight at total weight)	n/a	Increasing over time 2020 ↑ 2021 ↑ 2022 ↑ 2023 ↑ 2024 ↑	Increasing in past years 2020, 2021 ↑ 2022 ↑ 2023, 2024 ↓
Relative gonad weight (i.e., gonad weight at total weight)	n/a	Relatively stable over time 2020 ↓ 2021, 2022, 2023, 2024	Relatively stable over time 2020, 2021 ↓ 2022, 2023, 2024

The reference area for Fourhorn Sculpin is Koluktoo Bay. Magnitudes of effect (spatial comparisons) and relative percent differences (temporal comparisons) are presented in parentheses. **Bold** values indicate magnitudes of effect greater than the CES. Blue shaded values indicate magnitudes of effect exceeding the CES that are potentially indicative of an impairment to fish health.

CES = critical effect size; - = not significantly different; n/a = not applicable.

Table 7-23: Summary of Results of Fish Health Assessment for *Hiatella arctica*, MEEMP 2024

Fish Health Endpoint	CES[(a)]	Spatial Comparisons (Effect Size)	Temporal Comparisons
Hiatella arctica			
Length-frequency analysis	n/a	-	Relatively stable over time 2020 to 2023 ↓ 2024
Whole animal wet weight	n/a	Milne < Reference (-22%)	No consistent trends 2020, 2021 ↑ 2022 ↑ 2023 ↓ 2024
Condition as relative total weight (i.e., whole animal wet weight at total length)	n/a	Milne < Reference (-13%)	No consistent trends 2020 ↓ 2021, 2022 ↑ 2023 ↓ 2024
Relative shell weight (i.e., dry shell weight at total length)	n/a	Milne < Reference (-20%)	No significant trends
Relative gonad weight (i.e., gonad weight at whole animal wet weight)	n/a	-	No consistent trends 2021, 2022 ↑ 2023 ↓ 2024

The reference area for *Hiatella arctica* is Tugaat River Estuary. Magnitudes of effect (spatial comparisons) and relative percent differences (temporal comparisons) are presented in parentheses.

(a) There are no critical effect sizes associated with shellfish health endpoints (Environment Canada 2012).

CES = critical effect size; - = not significantly different; n/a = not applicable.

7.6.2 Tissue Chemistry

Metal concentrations were generally above DLs and variable among species and years. In 2024, concentrations of most COPCs did not differ significantly between Milne Port and the reference areas for Fourhorn Sculpin and *H. arctica*, except for aluminum and selenium in *H. arctica*. Concentrations of aluminum and selenium were significantly lower in *H. arctica* from Milne Port compared to those from Tugaat River Estuary. Concentrations of most COPCs varied significantly over time, but few consistent trends were observed and the measured concentrations of COPCs in 2024 remained within the range of historical variability for all species. The absence of consistent trends suggests observed differences were likely a result of interannual variability, and the magnitude of trends were not considered ecologically relevant.

All tissue samples for Arctic Char, Fourhorn Sculpin and *H. arctica* collected from 2018 to 2024 were below Health Canada's Maximum Levels for Chemical Contaminants in Foods mercury consumption guideline of 0.5 mg/kg ww (Health Canada 2015). All tissue samples for Arctic Char and nearly all samples for Fourhorn Sculpin were also below BC MOE fish tissue guideline of 4 mg/kg dw for selenium (BC MOE 2014). One Fourhorn Sculpin collected in Koluktoo Bay exceeded the selenium guideline (4.20 mg/kg dw selenium).

A summary of results of the fish tissue chemistry assessment for Arctic Char, Fourhorn Sculpin, and *H. arctica* is provided in Table 7-24.

Consistent with previous years, concentrations of most metals were greater in *H. arctica* compared to Arctic Char and Fourhorn Sculpin. Molluscs tend to accumulate metals (from both natural and anthropogenic sources) to a greater degree compared to fish (Bonsignore et al. 2018), and this phenomenon is reflected in the *H. arctica* tissue chemistry results. Metals concentrations in *H. arctica* were consistently greater than those measured in Arctic Char and Fourhorn Sculpin, occasionally by orders of magnitude. Species-specific differences in bioaccumulation processes and the tissue types analyzed (i.e., whole body versus muscle) contribute to the differences observed in tissue metals concentrations among the monitored species. *Hiatella arctica* is a long-lived,

sedentary, filter feeding mollusc closely associated with the sediment; these life-history characteristics increase the potential of *H. arctica* exposure to, and subsequent accumulation of, metals. The concentrations of metals and the observed trends reported herein for *H. arctica* are not considered to reflect ecologically relevant changes.

Tissue concentrations of PAHs were below DL for all Arctic Char and Fourhorn Sculpin analyzed in 2024, consistent with previous monitoring programs. No *H. arctica* were analyzed for PAHs in 2024, but previous years analyses indicated all PAH concentrations were below DL. These results are consistent with water and sediment quality monitoring results, for which concentrations of nearly all PAHs were consistently below DL (Chapters 2.0, 3.0).

In summary, each sentinel fish species provides valuable information for the MEEMP. Arctic Char, a highly mobile and valued subsistence and commercial food fish species, provides ecologically relevant information regarding potential risk to human consumers, as well as large mammals. Fourhorn Sculpin, a benthic-dwelling species with a relatively small range, is an abundant fish species in the Project area, providing information on potential localized effects due to Project activities. Lastly, *H. arctica* have different feeding and life history strategies and, therefore, exposure potential compared to the finfish species. *Hiatella arctica* represent sedentary organisms, spending nearly their entire lives in one place. Their filter-feeding strategy results in continuous exposure to potential Project-related impacts on water quality, providing valuable information concerning potential risk to the benthic invertebrate and shellfish communities.

Table 7-24: Summary of Results of Fish Tissue Chemistry Assessment for Arctic Char, Fourhorn Sculpin, and *Hiatella arctica*, MEEMP 2024

Tissue Chemistry Endpoint	CES[(a)]	Spatial Comparisons	Temporal Comparisons	Overall Trend
Arctic Char				
Aluminum	100%	n/a	2018 ↑ 2019, 2020 ↓ 2021 ↑ 2022, 2023 ↑ 2024	No consistent trends
Iron	100%	n/a	2018, 2029, 2020 ↑ 2021 ↑ 2022 ↑ 2023, 2024	Increasing over time
Magnesium	100%	n/a	2018 ↑ 2019 ↑ 2020 to 2024	Increasing in past years
Mercury	100%	n/a	No significant trends	None
Selenium	100%	n/a	2018 ↑ 2019 ↓ 2020 ↑ 2021 to 2024	No consistent trends
Fourhorn Sculpin				
Aluminum	100%	=	2019 ↓ 2020 ↑ 2021 ↑ 2022, 2023 ↑ 2024	Increasing in recent years
Iron	100%	=	2019 ↓ 2022 to 2024	Decreasing in past years
Magnesium	100%	=	2019 to 2022 ↓ 2023, 2024	Decreasing in recent years
Mercury	100%	=	2019, 2020 ↑ 2021 ↑ 2022 ↓ 2023, 2024	No consistent trends
Selenium	100%	=	2019 ↓ 2020, 2021 ↑ 2022 ↑ 2023, 2024	No consistent trends
Hiatella arctica				
Aluminum	100%	Milne < Tugaat (-49%)	2018 ↑ 2019, 2020, 2021, 2022 ↓ 2023 ↓ 2024	Decreasing in recent years

Tissue Chemistry Endpoint	CES[(a)]	Spatial Comparisons	Temporal Comparisons	Overall Trend
Iron	100%	=	2018 ↑ 2019, 2020, 2021, 2022 ↓ 2023 ↓ 2024	Decreasing in recent years
Magnesium	100%	=	2018 ↑ 2019 ↓ 2020, 2021, 2022 ↓ 2023 ↓ 2024	Decreasing in recent years
Mercury	100%	=	2018 ↑ 2019, 2020, 2021, 2022, 2023, 2024	No consistent trends
Selenium	100%	Milne < Tugaat (-14%)	2018 ↑ 2019, 2020, 2021, 2022, 2023 ↑ 2024	No consistent trends

As Arctic Char are highly mobile pelagic fish, there is no reference area for Arctic Char. The reference area for Fourhorn Sculpin is Koluktoo Bay, and the reference area for *Hiatella arctica* is Tugaat River Estuary. Magnitudes of effect (spatial comparisons) and relative percent differences (temporal comparisons) are presented in parentheses.

(a) The CES is applied to spatial comparisons only.

CES = critical effect size; '=' = not significantly different; n/a = not applicable.

Results of chemical analyses of metals and PAHs in tissues from all species (Arctic Char, Fourhorn Sculpin, *Hiatella arctica*) were within FEIS predictions and subsequent addenda, which indicated the potential for low magnitude increases in fish tissue concentrations of metals and/or PAHs associated with Project activities. Results presented herein do not exceed predicted effects on fish tissue chemistry due to Project activities.

7.7 Conclusions and Recommendations

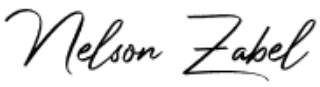
The MEEMP has been designed to meet the objectives of the various conditions associated with PC No. 005 (Chapter 1.0, Table 1-2), and to provide data and results to evaluate whether the marine environment is changing over time as a result of the Project. Original FEIS predictions, and subsequent addenda, indicated the potential for low magnitude changes in some ecological parameters, such as water quality and Arctic Char tissue chemistry, but characterised these changes as not ecologically significant. Monitoring data align with these predictions overall, as observed changes have been small and are consistent with baseline data or established guidelines. Monitoring to date suggests that Project mitigation is functioning as intended and that Project activities are being managed in a way that has not adversely affected marine fish health beyond the scope of the FEIS predictions, including addenda.

Moving forward, if monitoring of fish health and tissue chemistry in 2025 continues to demonstrate that the effects of Project activities are within those predicted by the FEIS and subsequent addenda, it may be recommended to consider periodic monitoring of these MEEMP components on a three-year cycle. Completion of the 2025 monitoring is recommended so that at least three years of data would be available from Koluktoo Bay which was the most-recently selected reference area and has been sampled since 2023 This recommendation aligns with the MDMER EEM requirements for biological monitoring and minimizes potential population-level effects of repeated lethal fish sampling. These efforts will provide an ongoing dataset for use in monitoring effects of the Project to the marine environment into the future.

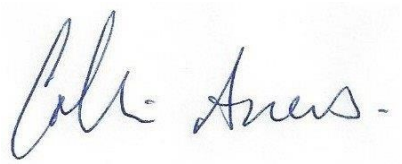
7.8 Closure

We trust this information is sufficient for your needs at this time. Should you have any questions or concerns, please do not hesitate to contact Phil Rouget, on behalf of the undersigned, at +1 250 419 4945.

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APPENDIX 7A

Fish Health Data

Table 7A-1: Fish Health Data for Fourhorn Sculpin Lethally Sampled from the Milne Port Area and Koluktook Bay Reference Area, 2024

Date (dd/mm/yy)	Effort Number	Fish Identification Number	Total Length (mm)	Total Weight (g)	Condition Factor	Sex	Life Stage	Maturity[(a)]	Age (y)	Liver Weight (g)	Gonad Weight (g)
Milne Port											
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1001	281	235.7	1.06	F	adult	13	9	10.118	10.459
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1003	260	192.0	1.09	F	adult	13	5	7.412	5.940
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1004	245	156.3	1.06	F	adult	13	8	7.598	6.740
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1012	314	365.5	1.18	F	adult	13	7	16.205	12.149
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1015	208	79.9	0.89	F	adult	13	5	2.363	1.988
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1017	255	180.6	1.09	F	adult	13	9	5.002	5.016
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1018	249	165.2	1.07	F	adult	13	9	7.294	4.577
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1019	228	102.7	0.87	F	adult	13	7	2.627	2.467
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1020	217	103.3	1.01	F	adult	13	6	4.065	4.121
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1022	230	118.3	0.97	F	adult	13	7	4.407	3.242
05/08/24	BAFF24UDPFANJ7	BAFF24UDPFFHSC1024	249	170.3	1.10	F	adult	13	7	8.218	5.769
05/08/24	BAFF24UDPFANJ7	BAFF24UDPFFHSC1025	284	229.5	1.00	F	adult	13	8	10.964	9.459
05/08/24	BAFF24UDPFANJ7	BAFF24UDPFFHSC1026	244	144.4	0.99	F	adult	13	6	5.062	5.890
05/08/24	BAFF24UDPFANJ7	BAFF24UDPFFHSC1027	235	122.7	0.95	F	adult	13	7	4.562	4.154
05/08/24	BAFF24UDPFANJ7	BAFF24UDPFFHSC1028	246	147.5	0.99	F	adult	13	5	5.808	4.827
05/08/24	BAFF24UDPFANJ7	BAFF24UDPFFHSC1029	256	157.7	0.94	F	adult	13	5	7.242	4.964
08/08/24	BAFF24UIPFANJ13	BAFF24UIPFFHSC1037	309	378.7	1.28	F	adult	13	5	17.989	16.055
08/08/24	BAFF24UIPFANJ13	BAFF24UIPFFHSC1038	284	220.1	0.96	F	adult	13	5	10.173	13.501
08/08/24	BAFF24UIPFANJ13	BAFF24UIPFFHSC1039	260	211.9	1.21	F	adult	13	5	15.273	9.888
08/08/24	BAFF24UIPFANJ13	BAFF24UIPFFHSC1040	266	190.8	1.01	F	adult	13	4	11.812	9.884
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1002	203	78.1	0.93	M	adult	23	6	1.407	2.237
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1005	219	107.7	1.03	M	adult	23	5	3.037	3.875
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1006	262	195.7	1.09	M	adult	23	5	4.270	7.074
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1007	265	216.3	1.16	M	adult	23	6	4.823	6.163
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1008	228	104.8	0.88	M	adult	23	7	2.182	3.155
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1009	254	157.7	0.96	M	adult	23	7	3.016	6.340
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1010	229	122.1	1.02	M	adult	23	6	3.687	4.519
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1011	258	151.5	0.88	M	adult	23	6	3.182	6.986
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1013	227	109.7	0.94	M	adult	23	5	3.201	1.869
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1014	248	145.0	0.95	M	adult	23	8	2.817	4.970
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1016	219	91.6	0.87	M	adult	23	8	2.171	2.147
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1021	225	117.1	1.03	M	adult	23	6	3.040	3.234
04/08/24	BAFF24UDPFANJ6	BAFF24UDPFFHSC1023	229	114.9	0.96	M	adult	23	5	3.397	4.042
05/08/24	BAFF24UDPFANJ7	BAFF24UDPFFHSC1030	273	187.2	0.92	M	adult	23	6	5.844	6.727
05/08/24	BAFF24UDPFANJ7	BAFF24UDPFFHSC1031	276	188.7	0.90	M	adult	23	5	6.929	7.552
05/08/24	BAFF24UDPFANJ7	BAFF24UDPFFHSC1032	237	120.1	0.90	M	adult	23	6	4.364	3.553
05/08/24	BAFF24UDPFANJ7	BAFF24UDPFFHSC1033	219	99.1	0.94	M	adult	23	11	2.748	1.690
05/08/24	BAFF24UDPFANJ7	BAFF24UDPFFHSC1034	254	154.8	0.94	M	adult	23	8	4.402	7.526
05/08/24	BAFF24UDPFANJ7	BAFF24UDPFFHSC1035	213	92.6	0.96	M	adult	23	7	2.565	3.203
05/08/24	BAFF24UDPFANJ7	BAFF24UDPFFHSC1036	213	87.6	0.91	M	adult	23	7	1.760	3.246
Koluktoo Bay											
03/08/24	BAFF24UREFGN03	BAFF24UKLKFHSC2004	296	291.0	1.12	F	adult	13	5	8.201	10.200
03/08/24	BAFF24UREFGN03	BAFF24UKLKFHSC2005	229	122.5	1.02	F	adult	13	11	5.810	3.882
03/08/24	BAFF24UREFGN04	BAFF24UKLKFHSC2006	250	217.1	1.39	F	adult	13	8	14.045	8.788
03/08/24	BAFF24UREFGN04	BAFF24UKLKFHSC2008	252	154.5	0.97	F	adult	13	8	5.629	9.804
03/08/24	BAFF24UREFGN04	BAFF24UKLKFHSC2009	210	71.3	0.77	F	adult	13	5	2.999	2.219
03/08/24	BAFF24UREFGN04	BAFF24UKLKFHSC2010	186	49.6	0.77	F	adult	13	8	1.213	1.649
03/08/24	BAFF24UREFGN01	BAFF24UKLKFHSC2011	283	271.1	1.20	F	adult	13	7	13.295	13.421
03/08/24	BAFF24UREFGN01	BAFF24UKLKFHSC2012	298	262.2	0.99	F	adult	13	7	13.131	9.252
09/08/24	BAFF24UREFANJ18	BAFF24UKLKFHSC2015	190	60.2	0.88	F	adult	13	5	2.141	2.265
09/08/24	BAFF24UREFANJ16	BAFF24UKLKFHSC2024	238	151.3	1.12	F	adult	13	5	8.216	6.810
09/08/24	BAFF24UREFANJ16	BAFF24UKLKFHSC2024	220	112.0	1.05	F	adult	13	9	6.292	4.408
09/08/24	BAFF24UREFGN16	BAFF24UKLKFHSC2026	256	259.8	1.55	F	adult	13	10	10.094	9.740
09/08/24	BAFF24UREFGN14	BAFF24UKLKFHSC2027	254	185.1	1.13	F	adult	13	5	8.357	6.437
09/08/24	BAFF24UREFGN14	BAFF24UKLKFHSC2029	224	132.1	1.18	F	adult	13	7	6.060	3.543
09/08/24	BAFF24UREFANJ20	BAFF24UKLKFHSC2030	243	156.7	1.09	F	adult	13	5	9.609	7.876
09/08/24	BAFF24UREFANJ19	BAFF24UKLKFHSC2033	205	87.3	1.01	F	adult	13	7	3.594	4.090
09/08/24	BAFF24UREFANJ19	BAFF24UKLKFHSC2034	209	89.2	0.98	F	adult	13	6	2.940	2.251
16/08/24	BAFF24UREFANJ30	BAFF24UKLKFHSC2036	206	74.1	0.85	F	adult	12	4	1.563	3.390
16/08/24	BAFF24UREFANJ30	BAFF24UKLKFHSC2037	249	164.9	1.07	F	adult	13	5	11.589	7.460
16/08/24	BAFF24UREFANJ30	BAFF24UKLKFHSC2038	225	124.3	1.09	F	adult	13	5	5.308	4.838
03/08/24	BAFF24UREFANJ05	BAFF24UKLKFHSC2001	207	84.2	0.95	M	adult	23	4	3.368	3.760
03/08/24	BAFF24UREFGN03	BAFF24UKLKFHSC2002	282	225.5	1.01	M	adult	23	5	6.620	6.741
03/08/24	BAFF24UREFGN03	BAFF24UKLKFHSC2003	242	127.0	0.90	M	adult	23	8	6.300	3.199
03/08/24	BAFF24UREFGN04	BAFF24UKLKFHSC2007	220	99.7	0.94	M	adult	23	7	4.828	3.343
09/08/24	BAFF24UREFANJ18	BAFF24UKLKFHSC2013	208	97.7	1.09	M	adult	23	7	2.828	2.950
09/08/24	BAFF24UREFANJ18	BAFF24UKLKFHSC2014	230	100.7	0.83	M	adult	23	9	2.952	4.260
09/08/24	BAFF24UREFANJ18	BAFF24UKLKFHSC2016	222	103.9	0.95	M	adult	23	8	2.964	3.407
09/08/24	BAFF24UREFANJ18	BAFF24UKLKFHSC2017	212	82.5	0.87	M	adult	23	7	2.847	2.249
09/08/24	BAFF24UREFANJ18	BAFF24UKLKFHSC2018	184	52.5	0.84	M	adult	23	5	1.141	1.935
09/08/24	BAFF24UREFANJ18	BAFF24UKLKFHSC2019	202	72.7	0.88	M	adult	23	8	2.149	3.434
09/08/24	BAFF24UREFANJ18	BAFF24UKLKFHSC2020	190	53.7	0.78	M	adult	23	12	0.970	2.650
09/08/24	BAFF24UREFANJ18	BAFF24UKLKFHSC2021	198	73.8	0.95	M	adult	23	6	1.985	3.051
09/08/24	BAFF24UREFANJ18	BAFF24UKLKFHSC2022	200	72.1	0.90	M	adult	23	4	1.695	3.284
09/08/24	BAFF24UREFGN16	BAFF24UKLKFHSC2025	234	114.5	0.89	M	adult	23	7	3.442	3.190
09/08/24	BAFF24UREFGN14	BAFF24UKLKFHSC2028	249	151.2	0.98	M	adult	23	6	7.526	4.860
09/08/24	BAFF24UREFANJ20	BAFF24UKLKFHSC2031	257	177.9	1.05	M	adult	23	6	4.700	8.458
09/08/24	BAFF24UREFANJ19	BAFF24UKLKFHSC2032	219	107.2	1.02	M	adult	23	6	5.171	3.726
09/08/24	BAFF24UREFANJ19	BAFF24UKLKFHSC2035	211	90.8	0.97	M	adult	23	7	3.668	3.113
16/08/24	BAFF24UREFANJ31	BAFF24UKLKFHSC2039	174	48.4	0.92	M	adult	23	5	0.937	1.788

(a) Refer to Table 7-2 in Report for descriptions of maturity codes.
d = day; m = month; y = year; mm = millimeters; g = grams; F = female; M = male.

Table 7A-2: Internal and External Assessments of Fourhorn Sculpin Lethally Sampled from the Milne Port Area and Koluktoo Bay Reference Area, 2024

Fish Identification Number	External Assessment										Internal Assessment						
	Body Deformity	Eyes	Skin	Thymus	Opercula	Gills	Pseudo-branchs	Fins	Vent	Parasites[a]	Liver[b]	Spleen	Gall Bladder	Gonads	Mesenteric Fat (%)	Parasites[a]	Kidney
Milne Port																	
BAFF24UDPFFHSC1001	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UDPFFHSC1003	N	N	0	0	0	N	N	1	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1004	N	N	1	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1012	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UDPFFHSC1015	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1017	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1018	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1019	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1020	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1022	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1024	N	N	0	0	0	N	N	1	0	2	A	B	0	N	0	0	N
BAFF24UDPFFHSC1025	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UDPFFHSC1026	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UDPFFHSC1027	N	N	0	0	0	N	N	1	0	1	A	B	0	N	0	0	N
BAFF24UDPFFHSC1028	N	N	0	0	0	N	N	0	0	0	C	B	0	N	0	0	N
BAFF24UDPFFHSC1029	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UIPFFHSC1037	N	N	0	0	0	N	N	0	0	3	E	B	0	N	0	2	N
BAFF24UIPFFHSC1038	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UIPFFHSC1039	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UIPFFHSC1040	N	N	0	0	0	N	N	0	0	3	A	B	0	N	0	0	N
BAFF24UDPFFHSC1002	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UDPFFHSC1005	N	N	0	0	0	N	N	0	0	0	C	B	0	N	0	0	N
BAFF24UDPFFHSC1006	N	N	0	0	0	N	N	0	0	0	E	B	0	N	0	0	N
BAFF24UDPFFHSC1007	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UDPFFHSC1008	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1009	N	N	0	0	0	N	N	0	0	0	E	B	0	N	0	0	N
BAFF24UDPFFHSC1010	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UDPFFHSC1011	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1013	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1014	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1016	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1021	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UDPFFHSC1023	N	N	0	0	0	N	N	0	0	2	A	B	0	N	0	0	N
BAFF24UDPFFHSC1030	N	N	0	0	0	N	N	1	0	2	A	B	0	N	0	2	N
BAFF24UDPFFHSC1031	N	N	0	0	0	N	N	0	0	2	A	B	0	N	0	2	N
BAFF24UDPFFHSC1032	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1033	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UDPFFHSC1034	N	N	0	0	0	N	N	0	0	0	E	B	0	N	0	0	N
BAFF24UDPFFHSC1035	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UDPFFHSC1036	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
Koluktoo Bay																	
BAFF24UKLKFHSC2004	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2005	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2006	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2008	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2009	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2010	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2011	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2012	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2015	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2024	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2024	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2026	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UKLKFHSC2027	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2029	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UKLKFHSC2030	N	N	0	0	0	N	N	0	0	1	C	B	0	N	0	0	N
BAFF24UKLKFHSC2033	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2034	N	N	0	0	0	N	N	0	0	0	C	B	0	N	0	0	N
BAFF24UKLKFHSC2036	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2037	N	N	0	0	0	N	N	0	0	1	E	B	0	N	0	0	N
BAFF24UKLKFHSC2038	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2001	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2002	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	1	N
BAFF24UKLKFHSC2003	N	N	0	0	0	N	N	0	0	0	E	B	0	N	0	0	N
BAFF24UKLKFHSC2007	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2013	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2014	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UKLKFHSC2016	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2017	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2018	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2019	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2020	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2021	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2022	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2025	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2028	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UKLKFHSC2031	N	N	0	0	0	N	N	0	0	1	A	B	0	N	0	0	N
BAFF24UKLKFHSC2032	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2035	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N
BAFF24UKLKFHSC2039	N	N	0	0	0	N	N	0	0	0	A	B	0	N	0	0	N

(a) 0 = No observed parasites; 1 = Few observed parasites; 2 = Several observed parasites; 3 = Many observed parasites.

(b) A = Normal, solid red or light red colour; C = "Fatty" liver, "coffee with cream" colour; E = focal discolouration.

% = percent; N, 0, or B = normal; - = not collected; < = less than

Table 7A-3: Fish Health Data for *Hiatella arctica* Lethally Sampled from the Milne Port Area and Tugaat River Estuary Reference Area, 2024

Date	Effort Number	Fish Identification Number	Composite	Field Measurements		Laboratory Measurements								
				Total Length (mm)	Whole Animal Wet Weight (g)	Total Length (mm)	Total Height (mm)	Total Width (mm)	Whole Animal Wet Weight (g)	Shell Wet Weight (g)	Tissue Wet Weight (g)	Gonad Wet Weight (g)	Shell Dry Weight (g)	Age (y)
(dd/mm/yy)														
Milne Port														
06-08-24	BAFF24UMLNHTARVVWest-M	BAFF24UMLNHTAR1501	BAFF24-MLN-HTAR-COMP-METALS-3	28.98	2.82	28.25	12.81	11.35	2.045	1.012	0.514	0.404	0.857	9
06-08-24	BAFF24UMLNHTARVVWest-M	BAFF24UMLNHTAR1502	BAFF24-MLN-HTAR-COMP-METALS-1	19.72	1.15	19.73	9.12	7.54	0.826	0.557	0.196	0.014	0.513	5
06-08-24	BAFF24UMLNHTARVVWest-M	BAFF24UMLNHTAR1503	BAFF24-MLN-HTAR-COMP-METALS-8	32.15	3.69	31.27	15.25	10.82	2.025	1.284	0.397	0.028	1.086	7
06-08-24	BAFF24UMLNHTARVVWest-M	BAFF24UMLNHTAR1504	BAFF24-MLN-HTAR-COMP-METALS-2	26.53	2.87	26.44	12.74	10.44	2.455	1.032	1.133	0.031	0.868	11
06-08-24	BAFF24UMLNHTARVVWest-M	BAFF24UMLNHTAR1505	BAFF24-MLN-HTAR-COMP-METALS-1	21.19	1.21	21.03	9.81	8.56	1.004	0.435	0.135	0.006	0.359	-
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1506	BAFF24-MLN-HTAR-COMP-METALS-7	28.97	3.05	28.81	14.73	11.84	2.596	1.076	0.843	0.047	0.841	18
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1507	BAFF24-MLN-HTAR-COMP-METALS-4	23.56	2.39	23.59	12.13	11.81	2.141	0.869	0.867	0.179	0.729	21
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1508	BAFF24-MLN-HTAR-COMP-METALS-6	27.09	3.56	27.17	14.19	11.90	3.113	1.783	0.787	0.037	1.573	37
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1509	BAFF24-MLN-HTAR-COMP-METALS-3	28.85	3.46	28.67	13.83	12.47	3.159	1.397	1.033	0.043	1.169	14
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1510	BAFF24-MLN-HTAR-COMP-METALS-5	24.31	1.96	24.18	12.65	9.80	1.823	0.763	0.668	0.026	0.617	10
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1511	BAFF24-MLN-HTAR-COMP-METALS-3	26.98	2.51	27.20	11.09	13.02	2.260	1.144	0.836	0.032	0.993	10
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1512	BAFF24-MLN-HTAR-COMP-METALS-5	24.57	2.22	24.62	11.66	10.62	1.815	0.852	0.606	0.040	0.699	14
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1513	BAFF24-MLN-HTAR-COMP-METALS-2	25.14	2.02	25.24	11.79	10.14	1.806	0.767	0.634	0.587	0.614	6
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1514	BAFF24-MLN-HTAR-COMP-METALS-6	27.41	2.92	27.42	13.10	10.18	2.499	1.352	0.894	0.021	1.158	15
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1515	BAFF24-MLN-HTAR-COMP-METALS-7	29.33	2.42	29.22	13.29	9.51	1.725	0.807	0.592	0.010	0.668	-
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1516	BAFF24-MLN-HTAR-COMP-METALS-2	25.26	2.20	24.70	11.51	10.40	1.806	0.813	0.657	0.042	0.695	11
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1517	BAFF24-MLN-HTAR-COMP-METALS-1	23.71	1.96	23.94	10.83	10.66	1.849	0.829	0.640	0.011	0.679	13
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1518	BAFF24-MLN-HTAR-COMP-METALS-4	20.91	1.37	20.87	9.95	8.17	1.103	0.483	0.363	0.009	0.406	6
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1519	BAFF24-MLN-HTAR-COMP-METALS-4	22.24	2.19	21.99	11.17	8.70	1.410	0.602	0.522	0.029	0.510	9
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1520	BAFF24-MLN-HTAR-COMP-METALS-5	24.35	2.32	23.87	10.98	9.07	1.365	0.661	0.443	0.024	0.568	5
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1521	BAFF24-MLN-HTAR-COMP-METALS-4	21.84	1.74	21.66	10.18	8.99	1.182	0.536	0.429	0.017	0.461	9
06-08-24	BAFF24UMLNHTARVVQ5	BAFF24UMLNHTAR1522	BAFF24-MLN-HTAR-COMP-METALS-1	21.28	2.020	21.97	10.62	10.59	1.712	0.665	0.526	0.016	0.549	5
10-08-24	BAFF24UMLNHTARVVSW3	BAFF24UMLNHTAR1523	BAFF24-MLN-HTAR-COMP-METALS-8	34.34	5.76	34.00	15.58	14.48	4.883	2.877	1.183	0.028	2.511	14
10-08-24	BAFF24UMLNHTARVVSW3	BAFF24UMLNHTAR1524	BAFF24-MLN-HTAR-COMP-METALS-6	25.07	3.93	26.79	13.82	10.96	3.316	1.791	0.926	0.025	1.567	16
10-08-24	BAFF24UMLNHTARVVSW3	BAFF24UMLNHTAR1525	BAFF24-MLN-HTAR-COMP-METALS-8	35.20	6.14	36.31	15.44	13.97	4.355	2.459	1.019	0.035	2.137	21
10-08-24	BAFF24UMLNHTARVVSW3	BAFF24UMLNHTAR1526	BAFF24-MLN-HTAR-COMP-METALS-8	28.43	5.05	30.11	15.57	13.27	4.374	2.261	1.151	0.019	1.984	8
10-08-24	BAFF24UMLNHTARVVSW3	BAFF24UMLNHTAR1527	BAFF24-MLN-HTAR-COMP-METALS-3	25.90	4.86	29.21	14.65	11.87	3.854	1.899	1.198	0.036	1.640	24
13-08-24	BAFF24UMLNHTARVVSCV2	BAFF24UMLNHTAR1528	BAFF24-MLN-HTAR-COMP-METALS-3	27.06	3.57	27.67	14.29	12.31	2.366	1.563	0.513	0.249	1.455	9
13-08-24	BAFF24UMLNHTARVVSCV2	BAFF24UMLNHTAR1529	BAFF24-MLN-HTAR-COMP-METALS-7	29.45	5.67	29.63	15.47	13.52	4.666	3.502	0.834	0.024	3.280	80
13-08-24	BAFF24UMLNHTARVVSCV2	BAFF24UMLNHTAR1530	BAFF24-MLN-HTAR-COMP-METALS-2	26.85	4.10	26.97	14.42	13.64	3.109	2.208	0.521	0.016	2.032	40
13-08-24	BAFF24UMLNHTARVVSCV2	BAFF24UMLNHTAR1531	BAFF24-MLN-HTAR-COMP-METALS-1	23.87	2.00	23.75	11.71	9.97	1.300	0.815	0.361	0.014	0.705	9
13-08-24	BAFF24UMLNHTARVVSCV2	BAFF24UMLNHTAR1532	BAFF24-MLN-HTAR-COMP-METALS-6	27.64	5.26	28.30	15.30	12.58	4.279	3.274	0.660	0.029	3.009	65
13-08-24	BAFF24UMLNHTARVVSCV2	BAFF24UMLNHTAR1533	BAFF24-MLN-HTAR-COMP-METALS-7	29.65	5.57	30.15	16.37	13.94	4.412	3.246	0.665	0.032	2.917	82
13-08-24	BAFF24UMLNHTARVVSCV2	BAFF24UMLNHTAR1534	BAFF24-MLN-HTAR-COMP-METALS-6	26.78	3.25	26.90	13.73	11.42	2.406	1.310	0.730	0.014	1.129	15
13-08-24	BAFF24UMLNHTARVVSCV2	BAFF24UMLNHTAR1535	BAFF24-MLN-HTAR-COMP-METALS-5	24.97	2.75	24.70	13.24	11.20	2.095	1.292	0.534	0.014	1.150	32
13-08-24	BAFF24UMLNHTARVVSCV2	BAFF24UMLNHTAR1536	BAFF24-MLN-HTAR-COMP-METALS-2	26.63	2.29	26.80	12.68	10.04	1.845	1.046	0.556	0.017	0.898	13
13-08-24	BAFF24UMLNHTARVVSCV2	BAFF24UMLNHTAR1537	BAFF24-MLN-HTAR-COMP-METALS-1	23.18	1.94	22.99	11.81	9.72	1.249	0.735	0.381	0.010	0.660	8
17-08-24	BAFF24UMLNHTARVVSNW1	BAFF24UMLNHTAR1538	BAFF24-MLN-HTAR-COMP-METALS-3	27.40	3.78	27.21	14.44	11.87	2.361	1.643	0.412	0.010	1.502	25
17-08-24	BAFF24UMLNHTARVVSNW1	BAFF24UMLNHTAR1539	BAFF24-MLN-HTAR-COMP-METALS-5	25.39	3.170	25.26	13.65	11.45	2.446	1.762	0.439	0.013	1.626	32
17-08-24	BAFF24UMLNHTARVVSNW1	BAFF24UMLNHTAR1540	BAFF24-MLN-HTAR-COMP-METALS-1	24.60	2.40	24.57	11.84	9.93	1.508	1.197	0.157	0.009	1.074	13
Koluktoo Bay														
03-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2501	BAFF24-REF-HTAR-COMP-METALS-6	33.22	6.89	33.14	16.71	14.28	4.888	3.259	0.843	0.019	2.944	27
03-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2502	BAFF24-REF-HTAR-COMP-METALS-1	25.40	4.42	24.84	15.30	12.70	3.355	2.176	0.793	0.022	1.907	26
03-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2503	BAFF24-REF-HTAR-COMP-METALS-2	27.07	3.57	27.24	14.57	10.95	2.074	1.514	0.299	0.016	1.289	48
03-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2504	BAFF24-REF-HTAR-COMP-METALS-5	30.83	7.23	30.48	16.45	13.87	4.893	3.648	0.726	0.030	3.106	58
03-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2505	BAFF24-REF-HTAR-COMP-METALS-2	24.64	2.90	24.99	12.85	10.62	2.046	1.306	0.420	0.017	1.128	25
03-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2506	BAFF24-REF-HTAR-COMP-METALS-3	27.33	3.50	27.99	13.05	10.32	2.164	1.131	0.681	0.009	0.835	-
03-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2507	BAFF24-REF-HTAR-COMP-METALS-4	30.81	4.97	29.64	17.01	12.96	3.771	2.684	0.713	0.033	2.284	59
09-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2508	BAFF24-REF-HTAR-COMP-METALS-2	25.15	2.870	25.68	12.10	11.85	2.742	1.670	0.704	0.019	1.456	18
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2509	BAFF24-REF-HTAR-COMP-METALS-6	37.20	10.04	36.65	18.09	15.22	7.595	5.557	1.464	0.050	5.193	50
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2510	BAFF24-REF-HTAR-COMP-METALS-6	34.71	8.05	34.44	18.92	15.66	5.835	3.498	1.353	0.045	3.047	31
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2511	BAFF24-REF-HTAR-COMP-METALS-3	29.03	3.78	28.80	14.38	13.09	3.147	1.557	1.114	0.045	1.404	8
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2512	BAFF24-REF-HTAR-COMP-METALS-4	29.13	4.52	29.44	13.64	12.64	3.956	2.480	0.945	0.037	2.236	31
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2513	BAFF24-REF-HTAR-COMP-METALS-1	25.48	2.61	24.76	13.00	12.00	2.192	0.972	0.780	0.025	0.832	8
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2514	BAFF24-REF-HTAR-COMP-METALS-5	30.17	5.47	30.71	16.44	13.72	4.921	2.958	1.200	0.038	2.610	31
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2515	BAFF24-REF-HTAR-COMP-METALS-2	25.78	2.89	25.80	16.44	11.15	1.821	1.047	0.570	0.012	0.917	8
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2516	BAFF24-REF-HTAR-COMP-METALS-5	31.48	4.37	31.08	14.90	13.31	2.913	1.871	0.767	0.023	1.659	19
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2517	BAFF24-REF-HTAR-COMP-METALS-2	27.63	3.42	27.35	13.88	12.81	3.070	1.496	1.016	0.030	1.298	8
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2518	BAFF24-REF-HTAR-COMP-METALS-1	20.01	2.18	20.34	12.13	10.47	2.062	1.163	0.567	0.023	1.018	26
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2519	BAFF24-REF-HTAR-COMP-METALS-4	29.87	4.45	29.66	14.87	13.56	3.243	1.993	0.881	0.040	1.780	11
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2520	BAFF24-REF-HTAR-COMP-METALS-1	18.15	1.06	17.27	9.37	8.87	0.978	0.470	0.331	0.007	0.405	12
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2521	BAFF24-REF-HTAR-COMP-METALS-3	28.82	2.86	29.04	13.47	10.51	2.340	1.127	0.790	0.031	0.915	6
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2522	BAFF24-REF-HTAR-COMP-METALS-1	19.23	1.07	19.09	9.46	7.94	0.925	0.450	0.347	0.009	0.350	7
16-08-24	BAFF24UREFHTARVVTGT-1	BAFF24UTGTHTAR2523	BAFF24-REF-HTAR-COMP-METALS-2	25.88	2.57	25.39	12.52	11.23	1.949	1.258	0.504	0.013	1.119	14

d = day; m = month; y = year; mm = millimeters; g = grams; F = female; M = male; - = not assessed.

Table 7A-4: Fish Health Data for Fourhorn Sculpin Lethally Sampled from the Milne Port Area, 2020 to 2024

Parameter	2020							2021							2022						
	n	Min	Max	Median	Mean	SD	SE	n	Min	Max	Median	Mean	SD	SE	n	Min	Max	Median	Mean	SD	SE
Female																					
Total Length (mm)	22	194	310	216	226	32.5	6.92	20	205	344	249	255	40.3	9.02	20	225	306	253	256	20.1	4.49
Total Weight (g)	22	65.4	380	89.4	124	77.8	16.6	20	78.9	352	138	167	85.0	19.0	20	116	353	186	193	69.0	15.4
Carcass Weight (g)	22	54.3	239	72.7	94.5	50.1	10.7	20	49.7	235	86.2	102	51.0	11.4	20	61.4	203	97.3	104	38.9	8.69
Condition Factor	22	0.75	1.28	0.96	0.97	0.12	0.026	20	0.82	1.14	0.93	0.94	0.077	0.017	20	0.90	1.57	1.07	1.12	0.18	0.040
Liver Weight (g)	22	0.844	16.4	2.37	4.38	4.08	0.870	20	1.96	23.9	5.82	6.84	5.05	1.13	20	3.07	17.3	6.40	8.10	4.66	1.04
LSI	22	1.29	5.09	2.76	3.11	1.2	0.25	20	2.48	7.45	3.88	3.89	1.1	0.24	20	2.15	7.35	3.91	4.09	1.6	0.35
Gonad Weight (g)	22	1.06	16.4	3.26	4.53	3.85	0.821	20	1.40	81.8	4.71	10.3	17.7	3.95	20	2.37	18.2	5.76	6.39	3.58	0.802
GSI	22	1.33	4.99	3.53	3.38	1.1	0.23	20	1.78	24.38	3.67	4.76	4.8	1.1	20	1.83	5.16	3.28	3.22	0.86	0.19
Age (y)	22	4	4	5.0	5.4	1.1	0.22	20	3	10	6.0	6.2	2.0	0.46	20	5	9	7.0	7.0	0.97	0.22
Male																					
Total Length (mm)	21	189	276	215	214	21.1	4.61	20	209	281	229	237	24.4	5.45	20	212	278	236	236	16.7	3.74
Total Weight (g)	21	65.5	230	89.1	98.3	37.8	8.24	20	74.1	197	111	122	38.8	8.68	20	84.1	211	136	132	31.7	7.08
Carcass Weight (g)	21	54.5	169	70.0	78.3	28.0	6.12	20	47.1	147	72.7	80.8	30.0	6.71	20	50.1	129	79.9	77.9	19.6	4.38
Condition Factor	21	0.82	1.19	0.95	0.96	0.099	0.022	20	0.71	1.01	0.90	0.89	0.076	0.017	20	0.78	1.23	0.98	0.99	0.11	0.025
Liver Weight (g)	21	0.607	8.08	2.14	2.54	1.68	0.366	20	1.11	8.75	2.24	2.86	1.78	0.398	20	1.78	7.77	3.95	4.18	1.65	0.370
LSI	21	0.86	4.09	2.56	2.47	0.87	0.19	20	1.49	5.53	2.02	2.27	0.93	0.21	20	1.82	4.87	3.24	3.12	0.78	0.17
Gonad Weight (g)	21	1.43	10.7	3.84	4.07	2.31	0.503	20	2.07	10.2	4.76	5.17	2.19	0.490	20	2.56	9.26	4.48	4.92	1.86	0.415
GSI	21	2.02	5.88	4.09	4.03	1.3	0.28	20	2.51	6.40	4.24	4.23	1.1	0.25	20	2.47	5.04	3.46	3.67	0.79	0.18
Age (y)	21	4	9	5.0	5.6	1.5	0.34	20	3	12	6.0	6.6	2.1	0.48	20	5	10	7.0	6.8	1.1	0.24

LSI = Liver Somatic Index; GSI = Gonadal Somatic Index; n = sample size; mm = millimetres; g = grams; y = year; min = minimum; max = maximum; SD = standard deviation; SE = standard error

Parameter	2023							2024						
	n	Min	Max	Median	Mean	SD	SE	n	Min	Max	Median	Mean	SD	SE
Female														
Total Length (mm)	20	218	323	257	256	23.2	5.19	20	208	314	252	256	27.8	6.22
Total Weight (g)	20	105	329	174	183	57.0	12.7	20	80	379	168	184	77.7	17.4
Carcass Weight (g)	20	52.4	188	94.4	95.5	30.6	6.85	20	41.2	197	90	97	41.1	9.18
Condition Factor	20	0.85	1.42	1.05	1.06	0.13	0.029	20	0.87	1.28	1.01	1.04	0.10	0.023
Liver Weight (g)	20	3.92	16.1	8.66	8.78	3.53	0.789	20	2.363	17.99	7.353	8.210	4.452	0.995
LSI	20	2.88	6.72	4.79	4.78	1.2	0.27	20	2.56	7.21	4.35	4.30	1.08	0.24
Gonad Weight (g)	20	2.35	13.1	5.48	6.08	2.72	0.607	20	1.988	16.06	5.830	7.055	3.867	0.865
GSI	20	2.24	6.77	3.24	3.27	0.93	0.21	20	2.40	6.13	3.39	3.70	0.96	0.22
Age (y)	20	5	9	6.0	6.5	1.1	0.24	20	4	11	6.5	6.6	1.7	0.38
Male														
Total Length (mm)	20	203	281	226	232	24.0	5.37	20	203	276	229	238	21.9	4.89
Total Weight (g)	20	76.4	249	120	134	49.2	11.0	20	78	216	119	132	40.3	9.0
Carcass Weight (g)	20	45.4	140	60.9	77.4	32.2	7.20	20	44.5	115	67	75	22.3	4.99
Condition Factor	20	0.83	1.70	1.00	1.04	0.18	0.040	20	0.87	1.16	0.94	0.96	0.073	0.016
Liver Weight (g)	20	1.60	9.25	4.40	5.18	2.53	0.566	20	1.407	6.929	3.111	3.442	1.353	0.303
LSI	20	2.09	5.64	3.57	3.76	1.0	0.23	20	1.80	3.67	2.68	2.59	0.55	0.124
Gonad Weight (g)	20	1.61	9.53	3.65	4.01	2.05	0.459	20	1.690	7.552	3.959	4.505	2.003	0.448
GSI	20	1.44	5.76	2.80	2.98	1.0	0.23	20	1.70	4.86	3.49	3.32	0.82	0.18
Age (y)	20	4	8	5.5	5.9	1.2	0.27	20	5	9	6	6.4	1.3	0.29

LSI = Liver Somatic Index; GSI = Gonadal Somatic Index; n = sample size; mm = millimetres; g = grams; y = year; min = minimum; max = maximum; SD = standard deviation; SE = standard error

Table 7A-5: Summary of Fish Health Data for *Hiatella arctica* Lethally Sampled from the Milne Port Area, 2020 to 2024

Parameter	2020							2021							2022						
	n	Min	Max	Median	Mean	SD	SE	n	Min	Max	Median	Mean	SD	SE	n	Min	Max	Median	Mean	SD	SE
Total Length (mm)	50	25.4	34.5	29.1	29.2	2.30	0.325	35	17.5	35.1	30.5	29.3	4.25	0.718	40	23.7	38.0	29.5	29.9	4.26	0.674
Whole Animal ww (g)	50	2.76	6.40	4.06	4.33	1.07	0.151	35	0.481	8.13	3.98	4.02	1.76	0.297	40	1.56	6.08	3.09	3.32	1.15	0.182
Condition	50	1.13	2.54	1.70	1.73	0.34	0.047	35	0.90	2.25	1.41	1.48	0.30	0.050	40	0.98	2.68	1.69	1.71	0.37	0.059
Shell ww (g)	50	0.799	3.31	1.52	1.65	0.533	0.0753	35	0.219	5.14	2.06	2.22	1.17	0.197	40	0.673	4.58	1.69	1.87	0.774	0.122
Shell dw (g)	50	0.747	3.18	1.43	1.56	0.516	0.0729	35	0.115	4.73	1.80	1.90	1.03	0.175	40	0.541	4.19	1.54	1.68	0.701	0.111
Tissue ww (g)	50	1.22	4.01	2.57	2.68	0.680	0.0961	35	0.24	2.87	1.91	1.79	0.703	0.119	40	0.62	2.81	1.33	1.37	0.497	0.0786
Gonad ww (g)	-	-	-	-	-	-	-	35	0.00	0.08	0.04	0.04	0.0181	0.00306	40	0.01	0.10	0.02	0.03	0.0208	0.00330
MSI	-	-	-	-	-	-	-	35	0.90	6.13	1.97	2.23	1.2	0.20	40	0.75	3.85	1.84	2.03	0.86	0.14
Age (y)	50	10	49	22.5	24.8	12	1.6	35	1	39	17.0	19.2	8.1	1.4	39	6	34	17.0	17.4	6.4	1.0

ww = wetted weight; dw = dry weight; mm = millimetres; g = grams; n = sample size; min = minimum; max = maximum; SD = standard deviation; SE = standard error; - = not applicable.

Parameter	2023							2024						
	n	Min	Max	Median	Mean	SD	SE	n	Min	Max	Median	Mean	SD	SE
Total Length (mm)	40	24.3	37.8	30.5	30.5	3.15	0.497	40	19.7	36.3	26.8	26.3	3.51	0.555
Whole Animal ww (g)	40	1.14	7.07	3.91	4.02	1.45	0.229	40	0.826	4.88	2.12	2.41	1.10	0.175
Condition	40	1.10	2.79	1.78	1.82	0.40	0.063	40	0.435	3.50	1.11	1.36	0.810	0.128
Shell ww (g)	40	0.588	4.45	2.20	2.30	0.990	0.156	40	0.359	3.28	0.95	1.20	0.750	0.119
Shell dw (g)	40	0.535	4.02	1.95	2.03	0.894	0.141	40	0.135	1.20	0.62	0.65	0.277	0.044
Tissue ww (g)	40	0.55	2.75	1.65	1.66	0.542	0.0857	40	0.97	2.32	1.57	1.62	0.32	0.050
Gonad ww (g)	40	0.03	0.35	0.10	0.10	0.0579	0.00916	40	0.006	0.587	0.024	0.056	0.113	0.0179
MSI	40	2.89	15.43	6.31	6.68	2.6	0.40	40	1.63	1,238	3.96	46.6	202	31.9
Age (y)	40	7	52	21.0	23.0	11	1.8	38	5	82	13	20	19	3.1

MSI = Mantle Somatic Index; ww = wetted weight; dw = dry weight; mm = millimetres; g = grams; n = sample size; min = minimum; max = maximum; SD = standard deviation; SE = standard error; - = not applicable.

Table 7A-6: Stomach Contents Observed in Fishes Sampled from the Milne Port Area and Koluktoo Bay Reference Area, 2024

Phyllum	Subphyllum	Class	Subclass	Order	Family	Taxon	Proportion of Total Stomach Contents		
							Arctic Char (n = 10)	Fourhorn Sculpin	
								Milne Port (n = 23)	Koluktoo Bay (n = 17)
Annelida	-	Polychaeta	Echiura	-	-	Echiura indet.	-	4%	-
			Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet.	-	36%	-
Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	*Calanus hyperboreus*	<1%	1%	-
						Calanus sp.	-	<1%	<1%
		Malacostraca	Eumalacostraca	Amphipoda	Atylidae	*Atylus* sp.	-	4%	-
					Gammaridae	*Gammarus* sp.	<1%	2%	16%
					Hyperiidae	*Themisto* sp.	40%	-	<1%
					Oedicerotidae	Oedicerotidae indet.	-	<1%	<1%
					Uristidae	*Onisimus* sp.	2%	<1%	-
					-	Amphipoda indet.	-	<1%	<1%
					-	Hyperiidea indet.	<1%	<1%	1%
					-	Lysianassoidea indet.	<1%	<1%	-
				Mysida	Mysidae	*Mysis* sp.	3%	<1%	-
					-	Mysida indet.	2%	<1%	2%
		-	-	-	-	Crustacea indet.	49%	4%	16%
	Hexapoda	Insecta	Pterygota	Diptera		Tipuloidea indet.	-	<1%	-
Chordata	Vertebrata	Teleostei	-	Perciformes	Ammodytidae	Ammodytidae indet.	-	15%	-
			-	-	-	Teleostei indet.	2%	12%	5%
Mollusca	-	-	-	-	-	*Limacina* sp.	-	18%	59%

n = sample size; sp. = species; indet. = indeterminate; - = not identified or not applicable.

Table 7A-7: Stomach Contents of All Fish Captured from Milne Inlet, the Milne Port Area, and Koluktoo Bay Reference Area, 2024

Species	Fish Identification Number	Stomach Fullness (%)	Digested (%)	Full Stomach Weight (g)	Phyllum	Subphyllum	Class	Subclass	Order	Family	Taxon	Total Abundance (# individuals)	Total Wet Weight (g)	Wet Weight / Individual (g)
Milne Inlet														
Arctic Char	BAFF24UDPFARCH4001	25	100	3.60282	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto sp.	2	0.02981	0.01491
							-	-	-	-	Crustacea indet.	-	0.03441	0.03441
	BAFF24UDPFARCH4002	50	50	7.22002	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto sp.	1	0.01044	0.01044
											Themisto sp.	1	0.01259	0.01259
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	3	0.01730	0.00577
							Malacostraca	Eumalacostraca	Mysida	Mysidae	Mysis sp.	1	0.13752	0.13752
											Mysis sp.	2	0.08720	0.04360
							Malacostraca	Eumalacostraca	Mysida	-	Mysida indet.	3	0.01386	0.00462
										-	Mysida indet.	8	0.02704	0.00338
							-	-	-	-	Crustacea indet.	-	0.01073	0.01073
							-	-	-	-	Crustacea indet.	-	0.08308	0.08308
	BAFF24UDPFARCH4003	25	100	9.91444	Arthropoda	Crustacea	-	-	-	-	Crustacea indet.	-	0.13310	0.13310
					-	-	-	-	-	-	Unidentified tissue	-	0.53173	0.53173
	BAFF24UDPFARCH4004	25	75	11.54355	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto sp.	1	0.01159	0.01159
									Mysida	-	Mysida indet.	-	0.35202	0.35202
	BAFF24UDPFARCH4005	75	50	61.15800	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto sp.	19	5.58391	0.29389
											Themisto sp.	148	6.50573	0.04396
										Uristidae	Onisimus sp.	21	0.67294	0.03204
									Mysida	Mysidae	Mysis sp.	13	0.80171	0.06167
							-	-	-	-	Crustacea indet.	-	12.53758	12.53758
					Chordata	Vertebrata	Teleostei	-	-	-	Teleostei indet.	-	0.69258	0.69258
					-	-	-	-	-	-	Unidentified tissue	-	0.05063	0.05063
	BAFF24UDPFARCH4006	25	100	10.49591	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	1	0.03002	0.03002
											Gammarus sp.	2	0.02906	0.01453
							-	-	-	-	Crustacea indet.	-	0.14814	0.14814
							-	-	-	-	Crustacea indet.	-	0.68550	0.68550
					-	-	-	-	-	-	Unidentified tissue	-	0.35092	0.35092
					-	-	-	-	-	-	Unidentified tissue	-	0.51862	0.51862
	BAFF24UDPFARCH4009	25	100	6.80288	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	3	0.01965	0.00655
							Malacostraca	Eumalacostraca	Mysida	-	Mysida indet.	8	0.04374	0.00547
							-	-	-	-	Crustacea indet.	-	0.45257	0.45257
					-	-	-	-	-	-	Unidentified tissue	-	0.64983	0.64983
	BAFF24UDPFARCH4010	50	75	6.35614	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	-	Hyperiidea indet.	2	0.01113	0.00557
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	12	0.09760	0.00813
							Malacostraca	Eumalacostraca	Mysida	-	Mysida indet.	27	0.17543	0.00650
							-	-	-	-	Crustacea indet.	-	0.15103	0.15103
					-	-	-	-	-	-	Unidentified tissue	-	0.33127	0.33127
	BAFF24UDPFARCH4012	25	100	7.23533	Arthropoda	Crustacea	-	-	-	-	Crustacea indet.	-	0.43484	0.43484
					-	-	-	-	-	-	Unidentified tissue	-	0.54652	0.54652
	BAFF24UDPFARCH4013	25	100	8.44441	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	4	0.08408	0.02102
										-	Lysianassoidea indet.	1	0.00524	0.00524
					-	-	-	-	-	-	Unidentified tissue	-	0.62088	0.62088
Milne Port														
	BAFF24UDPFFHSC1001	100	25	20.55182	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	1	0.02727	0.02727
										Uristidae	Onisimus sp.	1	0.09741	0.09741
										-	Amphipoda indet.	-	0.00924	0.00924
										-	Hyperiidea indet.	1	0.14721	0.14721
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	30	0.15381	0.00513
							-	-	-	-	Crustacea indet.	-	0.06310	0.06310
					Annelida	-	Polychaeta	Echiura	-	-	Echiura indet.	1	0.72311	0.72311
					Mollusca	-	-	-	-	-	Limacina sp.	53	0.65928	0.01244
						-	-	-	-	-	Limacina sp.	204	2.34161	0.01148
					-	-	-	-	-	-	Plant material	-	-	-
					Chordata	Vertebrata	Teleostei	-	-	-	Teleostei indet.	1	2.58451	2.58451
					-	-	-	-	-	-	Unidentified tissue	-	0.37129	0.37129
	BAFF24UDPFFHSC1002	100	100	3.09678	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	2	0.00595	0.00298
											Gammarus sp.	2	0.07507	0.03754
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	12	0.09749	0.00812
							Malacostraca	Eumalacostraca	Mysida	-	Mysida indet.	8	0.05830	0.00729
							-	-	-	-	Crustacea indet.	-	0.75895	0.75895
					-	-	-	-	-	-	Rocks	-	-	-
	BAFF24UDPFFHSC1003	25	75	5.22891	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	1	0.02570	0.02570
											Gammarus sp.	2	0.11381	0.05691
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	1	0.01675	0.01675
											Calanus hyperboreus	5	0.04977	0.00995
											Calanus sp.	-	0.01275	0.01275
					Mollusca	-	-	-	-	-	Limacina sp.	7	0.05909	0.00844
						-	-	-	-	-	Limacina sp.	17	0.13128	0.00772
					-	-	-	-	-	-	Unidentified tissue	-	0.02939	0.02939
					-	-	-	-	-	-	Unidentified tissue	-	0.24898	0.24898
	BAFF24UDPFFHSC1004	100	100	12.28651	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	1	0.00643	0.00643
					Annelida	-	Polychaeta	Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet. (tubes only	-	-	-
					-	-	-	-	-	-	Rocks	-	-	-
					Annelida	-	Polychaeta	Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet.	-	0.86846	0.86846
					-	-	-	-	-	-	Unidentified tissue	-	2.36921	2.36921
	BAFF24UDPFFHSC1006	25	100	7.11293	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	1	0.04714	0.04714
										Oedicerotidae	Oedicerotidae indet.	1	0.00980	0.00980
										Oedicerotidae	Oedicerotidae indet.	1	0.02665	0.02665
										-	Amphipoda indet.	1	0.00700	0.00700
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	3	0.02114	0.00705
											Calanus sp.	2	0.02309	0.01155
							-	-	-	-	Crustacea indet.	-	0.06751	0.06751
							-	-	-	-	Crustacea indet.	-	0.08213	0.08213
					Mollusca	-	-	-	-	-	Limacina sp.	43	0.44344	0.01031
						-	-	-	-	-	Limacina sp.	156	1.54506	0.00990
					-	-	-	-	-	-	Plant material	-	-	-
					Chordata	Vertebrata	Teleostei	-	-	-	Teleostei indet.	-	0.28482	0.28482
						-	-	-	-	-	Ammodytidae indet.	1	2.68343	2.68343
					-	-	-	-	-	-	Unidentified tissue	-	0.01423	0.01423
					-	-	-	-	-	-	Unidentified tissue	-	0.23084	0.23084
	BAFF24UDPFFHSC1011	75	100	9.72847	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	-	Amphipoda indet.	1	0.04268	0.04268
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	1	0.01287	0.01287
							-	-	-	-	Crustacea indet.	-	0.24309	0.24309
					Mollusca	-	-	-	-	-	Limacina sp.	3	0.02241	0.00747
						-	-	-	-	-	Limacina sp.	264	2.14434	0.00812
					-	-	-	-	-	-	Plant material	-	-	-
					-	-	-	-	-	-	Unidentified tissue	-	1.06683	1.06683
	BAFF24UDPFFHSC1012	75	75	29.68573	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	1	0.01367	0.01367
					Annelida	-	Polychaeta	Echiura	-	-	Echiura indet	3	1.83334	0.61111
					-	-	-	-	-	-	Plant material	-	-	-
					Chordata	Vertebrata	Teleostei	-	-	-	Teleostei indet.	-	0.59125	0.59125
								-	-	-	Teleostei indet.	-	2.01169	2.01169
						-	-	-	-	-	Ammodytidae indet.	1	5.39547	5.39547
					-	-	-	-	-	-	Unidentified tissue	-	0.27202	0.27202
					-	-	-	-	-	-	Unidentified tissue	-	1.11386	1.11386
	BAFF24UDPFFHSC1014	50	100	5.37250	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	1	0.00542	0.00542
					Mollusca	-	-	-	-	-	Limacina sp.	2	0.02767	0.01384
					Annelida	-	Polychaeta	Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet. (tubes only	-	-	-
					-	-	-	-	-	-	Rocks	-	-	-
					Annelida	-	Polychaeta	Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet.	-	0.33134	0.33134
											Pectinariidae indet.	-	1.16625	1.16625
					-	-	-	-	-	-	Unidentified tissue	-	0.52528	0.52528
					-	-	-	-	-	-	Unidentified tissue	-	1.35253	1.35253
	BAFF24UDPFFHSC1015	50	100	4.47916	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	3	0.02231	0.00744
											Calanus sp.	7	0.03244	0.00463
					Mollusca	-	-	-	-	-	Limacina sp.	1	0.01247	0.01247
						-	-	-	-	-	Limacina sp.	5	0.02946	0.00589
					-	-	-	-	-	-	Rocks	-	-	-
					-	-	-	-	-	-	Rocks	-	-	-
					-	-	-	-	-	-	Unidentified tissue	-	0.49490	0.49490
					-	-	-	-	-	-	Unidentified tissue	-	1.35391	1.35391
	BAFF24UDPFFHSC1016	50	100	3.89131	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	-	Amphipoda indet.	1	0.00243	0.00243
					-	-	-	-	-	-	Unidentified tissue	-	1.72052	1.72052

Table 7A-7: Stomach Contents of All Fish Captured from Milne Inlet, the Milne Port Area, and Koluktoo Bay Reference Area, 2024

Species	Fish Identification Number	Stomach Fullness (%)	Digested (%)	Full Stomach Weight (g)	Phyllum	Subphyllum	Class	Subclass	Order	Family	Taxon	Total Abundance (# individuals)	Total Wet Weight (g)	Wet Weight / Individual (g)
Fourhorn Sculpin	BAFF24UDPFFHSC1021	50	100	3.88662	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Atylidae	Atylus sp.	1	0.00700	0.00700
											Atylus sp.	1	0.34974	0.34974
										Gammaridae	Gammarus sp.	5	0.06878	0.01376
										-	Hyperiidea indet.	1	0.04328	0.04328
										-	Lysianassoidea indet.	1	0.32107	0.32107
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	26	0.24481	0.00942
											Calanus hyperboreus	-	0.04789	0.04789
							Malacostraca	Eumalacostraca	Mysida	-	Mysida indet.	1	0.03967	0.03967
					Mollusca	-	-	-	-	-	Limacina sp.	22	0.16660	0.00757
						-	-	-	-	-	Limacina sp.	244	1.41971	0.00582
					-	-	-	-	-	-	Rocks	-	-	-
					-	-	-	-	-	-	Unidentified tissue	-	0.32578	0.32578
					-	-	-	-	-	-	Unidentified tissue	-	3.18934	3.18934
	BAFF24UDPFFHSC1022	75	100	5.37813	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	6	0.04511	0.00752
											Calanus sp.	7	0.02585	0.00369
					Mollusca	-	-	-	-	-	Limacina sp.	3	0.03644	0.01215
					-	-	-	-	-	-	Plant material	-	-	-
					-	-	-	-	-	-	Rocks	-	-	-
					Chordata	Vertebrata	Teleostei	-	-	-	Teleostei indet.	-	0.20945	0.20945
					-	-	-	-	-	-	Unidentified tissue	-	0.24334	0.24334
					-	-	-	-	-	-	Unidentified tissue	-	0.70190	0.70190
	BAFF24UDPFFHSC1023	25	100	2.65917	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	2	0.11111	0.05556
										-	Hyperiidea indet.	1	0.00376	0.00376
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	1	0.00420	0.00420
											Calanus hyperboreus	8	0.05738	0.00717
							Malacostraca	Eumalacostraca	Mysida	Mysidae	Mysis sp.	3	0.01762	0.00587
										-	Mysida indet.	-	0.09659	0.09659
					Mollusca	-	-	-	-	-	Limacina sp.	14	0.09068	0.00648
					-	-	-	-	-	-	Unidentified tissue	-	0.10119	0.10119
					-	-	-	-	-	-	Unidentified tissue	-	1.59613	1.59613
	BAFF24UDPFFHSC1025	75	100	10.80723	Arthropoda	Crustacea	-	-	-	-	Crustacea indet.	-	0.33263	0.33263
					-	-	-	-	-	-	Unidentified tissue	-	0.10665	0.10665
					-	-	-	-	-	-	Unidentified tissue	-	2.39413	2.39413
	BAFF24UDPFFHSC1026	50	100	6.73290	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	3	0.04531	0.01510
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	2	0.01177	0.00589
							Malacostraca	Eumalacostraca	Mysida	-	Mysida indet.	1	0.00558	0.00558
						Hexapoda	Insecta	Pterygota	Diptera	-	Tipuloidea indet	2	0.03366	0.01683
					-	-	-	-	-	-	Unidentified tissue	-	0.85902	0.85902
	BAFF24UDPFFHSC1027	0	100	3.74044	-	-	-	-	-	-	Empty Stomach	-	-	-
	BAFF24UDPFFHSC1029	0	100	4.55122	-	-	-	-	-	-	Empty Stomach	-	-	-
	BAFF24UDPFFHSC1030	50	100	6.46095	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	1	0.08939	0.08939
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	1	0.01390	0.01390
											Calanus sp.	3	0.00731	0.00244
					-	-	-	-	-	-	Rocks	-	-	-
					-	-	-	-	-	-	Unidentified tissue	-	1.54327	1.54327
	BAFF24UDPFFHSC1031	75	100	7.11023	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	-	Amphipoda indet.	-	0.36377	0.36377
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	1	0.00863	0.00863
					-	-	-	-	-	-	Rocks	-	-	-
					-	-	-	-	-	-	Unidentified tissue	-	1.36625	1.36625
	BAFF24UDPFFHSC1032	0	100	3.31821	-	-	-	-	-	-	Rocks	-	-	-
	BAFF24UDPFFHSC1034	50	100	8.91804	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	-	Lysianassoidea indet.	-	0.00404	0.00404
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	2	0.01122	0.00561
							-	-	-	-	Crustacea indet.	-	0.29161	0.29161
					Mollusca	-	-	-	-	-	Limacina sp.	8	0.07305	0.00913
						-	-	-	-	-	Limacina sp.	12	0.08624	0.00719
					-	-	-	-	-	-	Rocks	-	-	-
					Chordata	Vertebrata	Teleostei	-	-	-	Teleostei indet.	-	0.22656	0.22656
								-	-	-	Teleostei indet.	-	0.39078	0.39078
					-	-	-	-	-	-	Unidentified tissue	-	0.48453	0.48453
					-	-	-	-	-	-	Unidentified tissue	-	1.16445	1.16445
	BAFF24UDPFFHSC1035	50	100	3.47132	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	-	Lysianassoidea indet.	1	0.01171	0.01171
							-	-	-	-	Crustacea indet.	-	0.01436	0.01436
					-	-	-	-	-	-	Rocks	-	-	-
					-	-	-	-	-	-	Unidentified tissue	-	1.22313	1.22313
	BAFF24UDPFFHSC1037	100	100	32.23203	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Atylidae	Atylus sp.	1	0.12187	0.12187
							-	-	-	-	Crustacea indet.	-	0.10489	0.10489
					Annelida	-	Polychaeta	Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet. (tubes only	-	-	-
					-	-	-	-	-	-	Plant material	-	-	-
					Annelida	-	Polychaeta	Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet.	5	13.08792	2.61758
											Pectinariidae indet.	-	3.48003	3.48003
					-	-	-	-	-	-	Unidentified tissue	-	0.02148	0.02148
					-	-	-	-	-	-	Unidentified tissue	-	0.03531	0.03531
	BAFF24UDPFFHSC1038	75	50	9.39899	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Atylidae	Atylus sp.	1	0.91183	0.91183
											Atylus sp.	2	0.55438	0.27719
										Gammaridae	Gammarus sp.	2	0.06711	0.03356
											Gammarus sp.	2	0.13611	0.06806
					-	-	-	-	-	-	Plant material	-	-	-
	BAFF24UDPFFHSC1040	50	100	9.57372	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Atylidae	Atylus sp.	1	0.13904	0.13904
										-	Hyperiidea indet.	1	0.00235	0.00235
										-	Hyperiidea indet.	1	0.00715	0.00715
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	11	0.10618	0.00965
							Malacostraca	Eumalacostraca	Mysida	-	Mysida indet.	1	0.00769	0.00769
							-	-	-	-	Crustacea indet.	-	0.17221	0.17221
					-	-	-	-	-	-	Unidentified tissue	-	2.57326	2.57326
Koluktoo Bay														
	BAFF24UREFFHSC2001	0	100	2.29935	-	-	-	-	-	-	Empty Stomach	-	-	-
	BAFF24UREFFHSC2002	25	100	10.04563	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	-	Amphipoda indet.	1	0.00497	0.00497
							Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	6	0.03262	0.00544
					Chordata	Vertebrata	Teleostei	-	-	-	Teleostei indet.	40	0.21704	0.00543
					-	-	-	-	-	-	Unidentified tissue	-	0.32927	0.32927
	BAFF24UREFFHSC2004	0	100	12.76674	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	-	Hyperiidea indet.	1	0.01846	0.01846
							-	-	-	-	Crustacea indet.	-	0.01279	0.01279
					Mollusca	-	-	-	-	-	Limacina sp.	-	0.08992	0.08992
					Chordata	Vertebrata	Teleostei	-	-	-	Teleostei indet.	-	0.31849	0.31849
					-	-	-	-	-	-	Unidentified tissue	-	1.11205	1.11205
	BAFF24UREFFHSC2005	75	100	6.91222	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	5	0.04320	0.00864
									Mysida	-	Mysida indet.	8	0.02627	0.00328
							-	-	-	-	Crustacea indet.	-	0.63190	0.63190
					-	-	-	-	-	-	Plant material	-	-	-
					-	-	-	-	-	-	Rocks	-	-	-
					-	-	-	-	-	-	Unidentified tissue	-	1.74253	1.74253
	BAFF24UREFFHSC2008	0	100	5.56602	-	-	-	-	-	-	Empty Stomach	-	-	-
	BAFF24UREFFHSC2010	0	100	1.25097	-	-	-	-	-	-	Empty Stomach	-	-	-
	BAFF24UREFFHSC2011	25	50	8.99201	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	-	Mysida indet.	1	0.00241	0.00241
					Mollusca	-	-	-	-	-	Limacina sp.	3	0.03780	0.01260
						-	-	-	-	-	Limacina sp.	71	0.70461	0.00992
					-	-	-	-	-	-	Unidentified tissue	-	0.08713	0.08713
	BAFF24UREFFHSC2012	25	75	9.01641	Arthropoda	Crustacea	-	-	-	-	Crustacea indet.	-	0.06189	0.06189
					Mollusca	-	-	-	-	-	Limacina sp.	8	0.04805	0.00601
						-	-	-	-	-	Limacina sp.	45	0.38484	0.00855
					-	-	-	-	-	-	Rocks	-	-	-
					-	-	-	-	-	-	Rocks	-	-	-
					-	-	-	-	-	-	Unidentified tissue	-	1.36055	1.36055
	BAFF24UREFFHSC2014	0	100	3.59288	-	-	-	-	-	-	Empty Stomach	-	-	-
	BAFF24UREFFHSC2015	0	100	2.25804	-	-	-	-	-	-	Empty Stomach	-	-	-
	BAFF24UREFFHSC2016	25	100	4.38341	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	1	0.00529	0.00529
									Mysida	-	Mysida indet.	3	0.09830	0.03277
							-	-	-	-	Crustacea indet.	-	0.01361	0.01361
					-	-	-	-	-	-	Unidentified tissue	-	0.26617	0.26617
	BAFF24UREFFHSC2018	25	100	1.15140	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	-	Mysida indet.	1	0.00284	0.00284
	BAFF24UREFFHSC2019	50	75	2.97185	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	2	0.04681	0.02341
										-	Amphipoda indet.	1	0.00219	0.00219
									Mysida	-	Mysida indet.	2	0.00437	0.00219
							-	-	-	-	Crustacea indet.	-	0.00693	0.00693
					Platyhelminthes	-	-	-	-	-	Cestoda indet.	8	0.00126	0.00016
					-	-	-	-	-	-	Unidentified tissue	-	0.41897	0.41897
	BAFF24UREFFHSC2021	0	100	1.78677	-	-	-	-	-	-	Empty Stomach	-	-	-

Table 7A-7: Stomach Contents of All Fish Captured from Milne Inlet, the Milne Port Area, and Koluktoo Bay Reference Area, 2024

Species	Fish Identification Number	Stomach Fullness (%)	Digested (%)	Full Stomach Weight (g)	Phyllum	Subphyllum	Class	Subclass	Order	Family	Taxon	Total Abundance (# individuals)	Total Wet Weight (g)	Wet Weight / Individual (g)
Fourhorn Sculpin	BAFF24UREFFHSC2022	25	75	2.40808	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	1	0.03430	0.03430
											Gammarus sp.	-	0.00711	0.00711
							-	-	-	-	Crustacea indet.	-	0.01612	0.01612
							-	-	-	-	Crustacea indet.	-	0.04598	0.04598
					Mollusca	-	-	-	-	-	Limacina sp.	-	0.00570	0.00570
	BAFF24UREFFHSC2024	50	100	6.02460	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	1	0.00417	0.00417
											Gammarus sp.	3	0.03284	0.01095
											Gammarus sp.	3	0.19941	0.06647
										Oedicerotidae	Oedicerotidae indet.	1	0.00754	0.00754
									Mysida	-	Mysida indet.	1	0.00369	0.00369
							-	-	-	-	Crustacea indet.	-	0.02296	0.02296
							-	-	-	-	Crustacea indet.	-	0.03657	0.03657
					Mollusca	-	-	-	-	-	Limacina sp.	14	0.18541	0.01324
							-	-	-	-	Limacina sp.	69	0.71132	0.01031
							-	-	-	-	Limacina sp.	-	0.07382	0.07382
					Platyhelminthes	-	-	-	-	-	Cestoda indet.	2	0.00037	0.00019
					-	-	-	-	-	-	Unidentified tissue	-	0.12769	0.12769
					-	-	-	-	-	-	Unidentified tissue	-	0.81825	0.81825
	BAFF24UREFFHSC2025	100	75	12.85457	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	1	0.05481	0.05481
											Gammarus sp.	3	0.03583	0.01194
											Gammarus sp.	9	0.39149	0.04350
											Gammarus sp.	15	0.22166	0.01478
										-	Hyperiidea indet.	1	0.11193	0.11193
									Mysida	-	Mysida indet.	1	0.00496	0.00496
										-	Mysida indet.	18	0.06464	0.00359
							-	-	-	-	Crustacea indet.	-	0.06745	0.06745
							-	-	-	-	Crustacea indet.	-	0.66094	0.66094
					Mollusca	-	-	-	-	-	Limacina sp.	34	0.22113	0.00650
							-	-	-	-	Limacina sp.	170	1.33074	0.00783
					-	-	-	-	-	-	Plant material	-	-	-
					Platyhelminthes	-	-	-	-	-	Cestoda indet.	6	0.00574	0.00096
					-	-	-	-	-	-	Unidentified tissue	-	0.14484	0.14484
					-	-	-	-	-	-	Unidentified tissue	-	3.29996	3.29996
	BAFF24UREFFHSC2030	50	75	7.13678	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	3	0.03996	0.01332
									Mysida	-	Mysida indet.	2	0.00824	0.00412
							-	-	-	-	Crustacea indet.	-	0.01692	0.01692
					Mollusca	-	-	-	-	-	Limacina sp.	71	0.43167	0.00608
					-	-	-	-	-	-	Unidentified tissue	-	0.56203	0.56203
	BAFF24UREFFHSC2031	50	50	6.49754	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	3	0.03153	0.01051
									Mysida	-	Mysida indet.	4	0.01035	0.00259
							-	-	-	-	Crustacea indet.	-	0.01001	0.01001
					Mollusca	-	-	-	-	-	Limacina sp.	49	0.52681	0.01075
						-	-	-	-	-	Limacina sp.	-	0.23724	0.23724
					-	-	-	-	-	-	Plant material	-	-	-
					-	-	-	-	-	-	Rocks	-	-	-
					Platyhelminthes	-	-	-	-	-	Cestoda indet.	2	0.00047	0.00024
	BAFF24UREFFHSC2032	0	100	4.61607	-	-	-	-	-	-	Empty Stomach	-	-	-
	BAFF24UREFFHSC2033	0	100	1.67066	-	-	-	-	-	-	Empty Stomach	-	-	-
	BAFF24UREFFHSC2035	75	25	4.66901	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	2	0.10272	0.05136
									Mysida	-	Mysida indet.	1	0.00262	0.00262
							-	-	-	-	Crustacea indet.	-	0.00553	0.00553
					Mollusca	-	-	-	-	-	Limacina sp.	121	0.54841	0.00453
						-	-	-	-	-	Limacina sp.	-	0.05121	0.05121
	BAFF24UREFFHSC2037	25	25	7.20518	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	1	0.04173	0.04173
										Hyperiidae	Themisto sp.	1	0.00748	0.00748
							-	-	-	-	Crustacea indet.	-	0.00150	0.00150
					Mollusca	-	-	-	-	-	Limacina sp.	28	0.20931	0.00748
	BAFF24UREFFHSC2038	25	50	6.06110	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	3	0.02670	0.00890
									Mysida	-	Mysida indet.	-	0.00520	0.00520
							-	-	-	-	Crustacea indet.	-	0.00711	0.00711
					Mollusca	-	-	-	-	-	Limacina sp.	19	0.11851	0.00624
					-	-	-	-	-	-	Unidentified tissue	-	0.06011	0.06011
	BAFF24UREFFHSC2039	50	50	2.15468	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	5	0.34700	0.06940
							-	-	-	-	Crustacea indet.	-	0.06312	0.06312
					Mollusca	-	-	-	-	-	Limacina sp.	28	0.16975	0.00606
					-	-	-	-	-	-	Rocks	-	-	-
					-	-	-	-	-	-	Unidentified tissue	-	0.02933	0.02933

g = grams; indet. = indeterminable; sp. = species; - = not available or not applicable.

Table 7A-8: Supporting Information for Statistical Comparisons Between the Milne Port Area and the Koluktoo Bay Reference Area for Fourhorn Sculpin, 2024

Effect Indicator	Endpoint[a]	Covariate	Statistical Test	*n* Outlier	*n*		LSM		MSE	Coefficient of Determination (R^2)		Interaction *P*-value	Levene's Test	Shapiro-Wilk	*P*-value	Magnitude of Effect (%)	Critical Effect Size (%)[b]	Direction of Effect	Power Analysis[c]		
					Milne Port	Koluktoo Bay	Milne Port	Koluktoo Bay		Full Model	Reduced Model								Power to Detect CES	Minimum Detectable Difference[d]	Sensitivity[e]
Female																					
Survival	Age	-	ANOVA	0	20	20	7	7	2.829	0.008	-	-	1.000	0.144	0.576	-	25%	-	100%	1.83	27%
Growth	Size-at-Age	Age	$ANCOVA_{log10}$	0	20	20	2.25	2.11	0.0157	0.655	0.646	0.330	0.105	0.555	**0.002**	**36%**	25%	Milne > Ref	93% / 77%	19.44 / 77.1	15% / 59%
Condition (Energy Storage)	Relative Total Weight	Total Length	$ANCOVA_{log10}$	0	20	20	2.16	2.20	0.0024	0.945	0.945	0.618	0.096	0.221	**0.067**	-7%	10%	Milne < Ref	89% / 83%	23.13 / 14.4	15% / 9%
	Relative Liver Weight	Total Weight	$ANCOVA_{log10}$	0	20	20	0.785	0.823	0.012	0.859	0.858	0.717	0.227	0.679	0.295	-	25%	-	97% / 87%	1.803 / 1.713	27% / 26%
Reproduction	Relative Gonad Weight	Total Weight	$ANCOVA_{log10}$	0	20	20	0.725	0.776	0.010	0.864	0.858	0.184	0.802	0.336	0.120	-	25%	-	99% / 92%	1.576 / 1.235	26% / 21%
Male																					
Survival	Age	-	$ANOVA_{rank}$	0	20	19	6[f]	6[f]	125.43	0.007	-	-	0.265	**0.013**[g]	0.610	-	25%	-	100%	1.67	27%
Growth	Size-at-Age	Age	ANCOVA	0	20	19	132	102	436.39	0.809	0.791	0.077	0.579	0.543	**<0.001**	**30%**	25%	Milne > Ref	100%	23.35	20%
Condition (Energy Storage)	Relative Total Weight	Total Length	$ANCOVA_{log10}$	0	20	19	2.04	2.04	0.0011	0.963	0.962	0.539	0.906	0.715	0.751	-	10%	-	100% / 99%	8.38 / 10.1	8% / 9%
	Relative Liver Weight	Total Weight	$ANCOVA_{log10}$	0	20	19	0.425	0.555	0.012	0.784	0.774	0.213	0.449	0.062	**0.002**	**-26%**	25%	Milne < Ref	97% / 85%	1.249 / 0.495	35% / 14%
Reproduction	Relative Gonad Weight	Total Weight	$ANCOVA_{log10}$	0	20	19	0.545	0.599	0.012	0.743	0.692	0.013	0.724	0.123	0.163	-	25%	-	97% / 85%	1.143 / 0.957	29% / 24%

Notes:

Statistically significant values and magnitudes of effect greater than the CES are indicated in **bold.**

(a) For model components, please see Table 7-3 in Chapter 7.

(b) Critical Effect Size (CES) expressed as a percentage of the Koluktoo Bay mean.

(c) Power Analysis values presented on measurement scale. Log_{10}-transformed models include values for differences below and above the Koluktoo Bay mean.

(d) Minimum Detectable Difference expressed as unit difference from the Koluktoo Bay mean.

(e) Sensitivity is the minimum detectable difference expressed as a percent change in the Koluktoo Bay mean.

(f) Medians used for rank ANOVA.

(g) Rank ANOVA proceeded despite significant Shapiro-Wilk test based on visual inspection of the data.

n = sample size; LSM = least squares mean; P-value = probability value; log_{10} = log_{10}-transformed data; rank = rank-transformed data; ANOVA = analysis of variance; ANCOVA = analysis of covariance; n/a = not applicable.

Table 7A-9: Supporting Information for Statistical Comparisons from 2020 to 2024 for Fourhorn Sculpin, Milne Port Area

Effect Indicator	Endpoint[a]	Statistical Test	*n* Outlier	Sample Size					Assumptions		Coefficient of Determination (R^2)	MSE	Year *P*-value	Least Squares Mean					Year Trend *P*-value					Year Trend Slope Estimate					Trend Direction				
				2020	2021	2022	2024	2024	Breusch-Pagan	Shapiro-Wilk				2020	2021	2022	2024	2024	2020	2021	2022	2024	2024	2020	2021	2022	2024	2024	2020	2021	2022	2024	2024
Female																																	
Survival	Age	GAM_{log10}	0	22	20	20	20	20	0.773	0.048	0.135	0.0089	**0.003**	0.730	0.780	0.815	0.817	0.807	**0.030**	**0.001**	0.154	0.579	0.605	0.052	0.046	0.019	-0.0078	-0.012	↑	↑	-	-	-
Growth	Size-at-Age	GAM_{log10}[b]	1	21	16	20	20	19	0.151	0.800	0.055	0.011	**0.021**	2.13	2.15	2.17	2.19	2.21	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	0.018	0.018	0.018	0.018	0.018	↑	↑	↑	↑	↑
Condition (Energy Storage)	Relative Total Weight	GAM_{log10}	0	22	20	20	20	20	0.737	0.077	0.190	0.0021	**0.001**	2.19	2.16	2.22	2.21	2.20	**0.011**	**0.002**	**0.004**	**0.009**	0.959	-0.054	0.034	0.033	-0.028	-0.0011	↓	↑	↑	↓	-
	Relative Liver Weight	GAM_{log10}	0	22	20	20	20	20	0.413	0.645	0.080	0.015	**0.004**	0.735	0.761	0.786	0.812	0.838	**0.004**	**0.004**	**0.004**	**0.004**	**0.004**	0.026	0.026	0.026	0.026	0.026	↑	↑	↑	↑	↑
Reproduction	Relative Gonad Weight	GAM_{log10}	1	22	19	20	20	20	0.117	0.571	0.091	0.013	**0.053**	0.770	0.740	0.691	0.692	0.739	0.564	**0.020**	0.129	0.126	0.141	-0.0214	-0.046	-0.032	0.030	0.055	-	↓	-	-	-
Male																																	
Survival	Age	GAM_{log10}	0	21	20	20	20	20	0.051	0.359	0.092	0.010	**0.079**	0.734	0.796	0.814	0.775	0.792	**0.078**	**0.013**	0.279	0.321	0.35	0.068	0.049	-0.0233	-0.019	0.036	↑	↑	-	-	-
Growth	Size-at-Age	GAM_{log10}[b]	0	21	18	19	20	20	0.702	0.245	0.105	0.0094	**0.005**	2.02	2.04	2.07	2.09	2.11	**0.055**	**0.011**	**0.007**	**0.086**	0.33	0.027	0.026	0.023	0.018	0.014	↑	↑	↑	↑	-
Condition (Energy Storage)	Relative Total Weight	GAM_{log10}	1	21	20	20	19	20	0.234	0.602	0.160	0.0016	**0.006**	2.05	2.02	2.06	2.07	2.05	**0.005**	0.343	**0.000**	0.254	0.16	-0.050	0.0081	0.035	-0.010	-0.025	↓	-	↑	-	-
	Relative Liver Weight	GAM_{log10}	0	21	20	20	20	20	0.235	0.746	0.265	0.015	**<0.001**	0.425	0.385	0.507	0.578	0.440	0.115	**0.067**	**<0.001**	0.121	**0.001**	-0.0829	0.047	0.14	-0.040	-0.19	-	↑	↑	-	↓
Reproduction	Relative Gonad Weight	GAM_{log10}	0	21	20	20	20	20	0.746	0.101	0.200	0.015	**<0.001**	0.646	0.645	0.580	0.504	0.531	0.785	0.203	**0.001**	0.246	0.248	0.013	-0.030	-0.0911	-0.027	0.055	-	-	↓	-	-

Notes:

Statistically significant values are indicated ir**bold**. Statistical outliers are provided in Appendix 7A, Table 7A-12. Detailed statistical results for size-adjustment are provided in Appendix 7A, Table 7A-13.

(a) For model components, please see Table 7-2 in Chapter 7.

(b) Temporal trends assessed over range of overlapping covariate values (i.e., Ages 4 to 9 years).

n = sample size; P-value = probability value; GAM = Gaussian additive model; log_{10} = log_{10}-transformed data; ↑= incrasing; ↓= decreasing.

Table 7A-10: Supporting Information for Statistical Comparisons Between Milne Port and Tugaat River Estuary for Hiatella arctica, 2024

Effect Indicator	Endpoint[a]	Dependent Variable	Covariate	Statistical Test	*n* Outliers	*n*		LSM		MSE	Coefficient of Determination (R^2)		Interaction *P*-value	Levene's Test	Shapiro-Wilk	*Area P*-value	Magnitude of Effect (%)	Power Analysis[b]	
						Milne Port	Tugaat River Estuary	Milne Port	Tugaat River Estuary		Full Model	Reduced Model						Minimum Detectable Difference[c]	Sensitivity[d]
Hiatella arctica																			
Survival	Length Frequency	Total Length	n/a	K-S Test	-	40	23	-	-	-	-	-	-	-	-	0.196	-	-	-
Growth	Total Wet Weight	Whole Animal Wet Weight	n/a	$ANOVA_{log10}$	0	40	23	0.451	0.560	0.04	0.062	-	-	0.412	0.205	**0.048**	-22%	0.975 / 1.401	30% / 44%
Condition (Energy Storage)	Relative Total Weight	Whole Animal Wet Weight	Total Length	$ANCOVA_{log10}$	0	40	23	0.469	0.529	0.0074	0.840	0.840	0.949	0.489	0.795	**0.011**	-13%	0.443 / 0.515	14% / 16%
	Relative Shell Weight	Dry Shell Weight	Total Length	$ANCOVA_{log10}$	0	40	23	0.025	0.121	0.0232	0.692	0.691	0.565	0.705	0.506	**0.021**	-20%	0.278 / 0.363	23% / 31%
Reproduction	Mantle Somatic Index	Gonad Weight	Tissue Wet Weight	$ANCOVA_{log10}$	4	36	23	-1.67	-1.69	0.0261	0.581	0.562	0.120	0.270	0.540	0.594	-	0.001 / 0.001	25% / 33%

Notes:

Statistically significant values are indicated in **bold**. Power analysis was completed assuming normality. Statistical outliers are provided in Appendix 7A, Table 7A-12.

(a) For model components, please see Table 7-4 in Chapter 7.

(b) Power Analysis values presented on measurement scale. Log_{10}-transformed models include values for differences below and above the Tugaat River Estuary mean.

(c) Minimum Detectable Difference expressed as unit difference from the Tugaat River Estuary mean.

(d) Sensitivity is the minimum detectable difference expressed as a percent change in the Tugaat River Estuary mean.

n = sample size; LSM = Least Sqaures Mean; MSE = Mean Sqaured Error; P-value = probability value; log_{10} = log_{10}-transformed data; K-S Test = Kolmogorov-Smirnov test; ANOVA = analysis of variance; ANCOVA = analysis of covariance; - = not applicable.

Table 7A-11: Supporting Information for Statistical Comparisons from 2020 to 2024 for *Hiatella arctica*, Milne Port

Effect Indicator	Endpoint[a]	Dependent Variable	Coviarate	Statistical Test	*n* Outlier	Sample Size					Assumptions		Coefficient of Determination (R^2)	MSE	Year *P*-value	Least Squares Mean					Year Trend *P*-value					Year Trend Slope Estimate					Trend Direction				
						2020	2021	2022	2024	2024	Breusch-Pagan	Shapiro-Wilk				2020	2021	2022	2024	2024	2020	2021	2022	2024	2024	2020	2021	2022	2024	2024	2020	2021	2022	2024	2024
Hiatella arctica																																		
Survival	Length Frequency[b]	Total Length	n/a	K-S Test	-	50	35	44	40	40	-	-	-	-	-	29.09	30.45	29.53	30.47	26.80	-	0.234	0.797	0.797	**<0.001**	-	1.360	-0.925	0.940	-3.670	-	-	-	-	↓
Growth	Whole Animal Wet Weight	Whole Animal Wet Weight	n/a	GAM_{log10}	1	50	35	44	40	40	0.018	**0.005**[c]	0.186	2.142	**<0.001**	4.32	4.14	4.66	5.17	3.14	0.479	0.613	**<0.001**	**0.001**	**<0.001**	-0.3229	0.11	0.92	-0.70	-2.69	-	-	↑	↓	↓
Condition (Energy Storage)	Relative Total Weight[d]	Whole Animal Wet Weight	Total Length	GAM_{log10}	0	49	34	44	40	39	0.077	0.696	0.083	0.0081	**0.004**	0.62	0.58	0.63	0.65	0.59	**0.020**	0.479	**0.001**	**0.052**	**0.006**	-0.0627	0.0088	0.052	-0.025	-0.074	↓	-	↑	↓	↓
	Relative Shell Weight[e]	Dry Shell Weight	Total Length	GAM_{log10}	0	50	27	27	36	23	0.018	0.892	0.051	0.018	0.106	0.194	0.262	0.193	0.245	0.201	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reproduction	Mantle Somatic Index[f]	Gonad Weight	Tissue Wet Weight	GAM_{log10}	5	-	35	40	39	36	0.520	0.227	0.578	0.031	**<0.001**	-	-1.77	-1.80	-1.30	-1.54	-	**<0.001**	**<0.001**	**<0.001**	**<0.001**	-	-0.22	0.35	0.22	-0.47	-	↓	↑	↑	↓

Notes:

Statistically significant values are indicated in **bold**. Statistical outliers are provided in Appendix 7A, Table 7A-12. Statistical outliers are provided in Appendix 7A, Table 7A-12. Detailed statistical results for size-adjustment are provided in Appendix 7A, Table 7A-13.

(a) For model components, please see Table 7-4 in Chapter 7.

(b) Least squares mean values are median total lengths. P-values adjusted using Holm's correction for multiple comparisons (Holm 1979). Trend slopes are sequential pairwise differences between years (e.g., between 2020 and 2021).

(c) GAM analysis using log_{10}-transformation proceeded despite significant Shapiro-Wilk test result as inspection of residuals did not suggest severe deviation from normality.

(d) Evaluated over the range of overlapping covariate values (i.e., total lengths ranging from 20.00 to 37.40 mm).

(e) Evaluated over the range of overlapping covariate values (i.e., whole animal wet weights ranging from 1.004 to 4.934 g).

(e) Evaluated over the range of overlapping covariate values (i.e., tissue wet weights ranging from 1.000 to 4.934 g).

n = sample size; P-value = probability value; ↑= incrasing; ↓= decreasing.

Table 7A-12: Outliers Omitted from Statistical Comparisons of Fish Health Endpoints, 2020 to 2024

Species	Sex	Parameter	Grouping	FIN	Total Length (mm)	Total Weight (g)	SR
Spatial							
Hiatella arctica	-	Mantle Somatic Index	Milne Port	BAFF24UMLNHTAR1501	28.25	2.045	-[(a)]
				BAFF24UMLNHTAR1507	23.59	2.141	-[(a)]
				BAFF24UMLNHTAR1513	25.24	1.806	-[(a)]
				BAFF24UMLNHTAR1528	27.67	2.366	-[(a)]
Temporal							
Fourhorn Sculpin	Female	Size-at-Age	2020	BAFF20UMLNFHSC1023	310	380	3.57
		Relative Gonad Weight	2021	BAFF21UMLNFRSC1019	309	336	5.96
	Male	Condition	2024	BAFF23UDPFFHSC1007	210	158	5.55
Hiatella arctica	-	Whole Animal Wet Weight	2021	BAFF21UMLNHTAR1530	17.47	0.481	-5.52
		Mantle Somatic Index	2023	BAFF23UMLNHTAR1506	34.44	7.066	-[(a)]
			2024	BAFF24UMLNHTAR1501	28.25	2.045	-[(a)]
				BAFF24UMLNHTAR1507	23.59	2.141	-[(a)]
				BAFF24UMLNHTAR1513	25.24	1.806	-[(a)]
				BAFF24UMLNHTAR1528	27.67	2.366	-[(a)]

(a) Five *Hiatella arctica* removed prior to ANCOVA analysis due to anomalously high gonad weights, based on visual inspection of scatterplots.

FIN = Fish Identification Number; SR = Studentized Residual

Table 7A-13 Results of Size-Adjustment of Biometrics for Temporal Trend Assessment of Fish Health Endpoints for Fourhorn Sculpin and Hiatella arctica, 2024

Sex	Dependent Variable	Covariate	Statistical Model	Number of Outliers	Assumptions			Coefficient of Determination (R^2)	ANOVA Table								
					Homogeneity of Variance	Shapiro-Wilk	Interaction *P*-value		Intercept			Covariate			Year		
									F-Value	df	*P*-value	F-Value	df	*P*-value	F-Value	df	*P*-value
Fourhorn Sculpin																	
Female	Total Weight	Age	GLM_{log10} [(a)]	0	0.561	0.758	0.234	0.640	73.6	1,91	**<0.001**	120.2	1,91	**<0.001**	1.88	4,91	0.121
	Total Weight	Total Length	GLM_{log10}	0	0.650	0.097	0.017	0.941	668.1	1,96	**<0.001**	1215.1	1,96	**<0.001**	5.60	4,96	**<0.001**
	Liver Weight	Total Weight	GLM_{log10}	0	0.046	0.663	0.197	0.835	219.4	1,96	**<0.001**	339.6	1,96	**<0.001**	3.07	4,96	**0.020**
	Gonad Weight	Total Weight	GLM_{log10}	1	0.189	0.657	0.440	0.824	241.6	1,95	**<0.001**	383.8	1,95	**<0.001**	2.43	4,95	**0.053**
Male	Total Weight	Age	GLM_{log10}	0	0.545	0.762	0.554	0.501	251.5	1,92	**<0.001**	64.8	1,92	**<0.001**	3.51	4,92	**0.010**
	Total Weight	Total Length	GLM_{log10}	1	0.549	0.630	0.644	0.916	457.9	1,94	**<0.001**	867.0	1,94	**<0.001**	4.57	4,94	**0.002**
	Liver Weight	Total Weight	GLM_{log10}	0	0.235	0.489	0.903	0.728	120.3	1,95	**<0.001**	163.5	1,95	**<0.001**	8.44	4,95	**<0.001**
	Gonad Weight	Total Weight	GLM_{log10}	0	0.137	0.104	0.737	0.630	82.6	1,95	**<0.001**	143.9	1,95	**<0.001**	5.79	4,95	**<0.001**
Hiatella arctica																	
-	Whole Animal Wet Weight	Total Length	GLM_{log10}	0	0.304	0.690	0.015	0.737	286.4	1,200	**<0.001**	411.0	1,200	**<0.001**	4.34	4,200	**0.002**
	Dry Shell Weight	Total Length	GLM_{log10} [(a)]	0	0.880	0.676	0.674	0.367	83.9	1,161	**<0.001**	93.2	1,161	**<0.001**	1.71	4,157	0.150
	Gonad Weight	Tissue Wet Weight	GLM_{log10}	5	0.046	0.221	0.026	0.762	2524.6	1,145	**<0.001**	158.6	1,145	**<0.001**	66.08	3,145	**<0.001**

Note: **Bold** values indicate statistically significant results. Statistical outliers are presented in Appendix 7A, Table 7A-12.

(a) A reduced linear model, including the covariate only, was used as Year was not significant ($p > 0.05$).

(b) The reduced model (i.e., no interaction term) was used as slopes could be considered pratically parallel ($\Delta r^2 = 0.948 - 0.941 = 0.007 < 0.020$; Barrett et al. 2010).

P-value = probability value; df = degrees of freedom; GLM = general linear model; log_{10} = log_{10}-transformed dependent and covariate values.

APPENDIX 7B

Fish Tissue Data

Table 7B-1: Sample Counts for Fish Tissue Chemistry Analyses from the Milne Port Area, 2010 to 2024

Species	Year	Number of Samples	
		Metals	Polycyclic Aromatic Hydrocarbons
Arctic Char	2010	22[(a)]	0
	2013	17	14
	2015	5	0
	2016	13	0
	2017	2	0
	2018	26	0
	2019	47	0
	2020	8	8
	2021	8	8
	2022	8	26
	2024	8	8
	2024	8	8
	Total	**164**	**72**
Arctic Staghorn Sculpin	2013	1	0
Fourhorn Sculpin	2013	2	1
	2019	30	0
	2020	8	8
	2021	8	8
	2022	8	8
	2024	8	8
	2024	8	8
	Total	**64**	**41**
Hiatella arctica	2018	24	0
	2019	80	0
	2020	8	8
	2021	8	8
	2022	8	4[(b)]
	2024	8	2[(b)]
	2024	8	0[(b)]
	Total	**144**	**22**
Unknown Sculpin	2019	30	0
Unknown Fish	2015	10	0
Grand Total	**-**	**413**	**135**

(a) Includes 11 muscle samples and 11 liver samples.

(b) Sample sizes were reduced due to compositing samples to meet laboratory sample volume requirements.

Table 7B-2: Summary of Hiatella arctica Samples Sent to Bureau Veritas Laboratory for Tissue Chemistry Analysis, 2024

Chemistry	Area	Composite Sample	Fish Identification Numbers	Number of Individuals
Metals	Milne Port	BAFF24-MLN-HTAR-COMP-METALS-1	BAFF24UMLNHTAR1502	7
			BAFF24UMLNHTAR1505	
			BAFF24UMLNHTAR1517	
			BAFF24UMLNHTAR1522	
			BAFF24UMLNHTAR1531	
			BAFF24UMLNHTAR1537	
			BAFF24UMLNHTAR1540	
		BAFF24-MLN-HTAR-COMP-METALS-2	BAFF24UMLNHTAR1504	5
			BAFF24UMLNHTAR1513	
			BAFF24UMLNHTAR1516	
			BAFF24UMLNHTAR1530	
			BAFF24UMLNHTAR1536	
		BAFF24-MLN-HTAR-COMP-METALS-3	BAFF24UMLNHTAR1501	6
			BAFF24UMLNHTAR1509	
			BAFF24UMLNHTAR1511	
			BAFF24UMLNHTAR1527	
			BAFF24UMLNHTAR1528	
			BAFF24UMLNHTAR1538	
		BAFF24-MLN-HTAR-COMP-METALS-4	BAFF24UMLNHTAR1507	4
			BAFF24UMLNHTAR1518	
			BAFF24UMLNHTAR1519	
			BAFF24UMLNHTAR1521	
		BAFF24-MLN-HTAR-COMP-METALS-5	BAFF24UMLNHTAR1510	6
			BAFF24UMLNHTAR1512	
			BAFF24UMLNHTAR1520	
			BAFF24UMLNHTAR1535	
			BAFF24UMLNHTAR1539	
		BAFF24-MLN-HTAR-COMP-METALS-6	BAFF24UMLNHTAR1508	5
			BAFF24UMLNHTAR1514	
			BAFF24UMLNHTAR1524	
			BAFF24UMLNHTAR1532	
			BAFF24UMLNHTAR1534	
		BAFF24-MLN-HTAR-COMP-METALS-7	BAFF24UMLNHTAR1506	4
			BAFF24UMLNHTAR1515	
			BAFF24UMLNHTAR1529	
			BAFF24UMLNHTAR1533	
		BAFF24-MLN-HTAR-COMP-METALS-8	BAFF24UMLNHTAR1503	4
			BAFF24UMLNHTAR1523	
			BAFF24UMLNHTAR1525	
			BAFF24UMLNHTAR1526	
	Tugaat River Estuary	BAFF24-REF-HTAR-COMP-METALS-1	BAFF24UTGTHTAR2502	5
			BAFF24UTGTHTAR2513	
			BAFF24UTGTHTAR2518	
			BAFF24UTGTHTAR2520	
			BAFF24UTGTHTAR2522	
		BAFF24-REF-HTAR-COMP-METALS-2	BAFF24UTGTHTAR2503	6
			BAFF24UTGTHTAR2505	
			BAFF24UTGTHTAR2508	
			BAFF24UTGTHTAR2515	
			BAFF24UTGTHTAR2517	
			BAFF24UTGTHTAR2523	
		BAFF24-REF-HTAR-COMP-METALS-3	BAFF24UTGTHTAR2506	3
			BAFF24UTGTHTAR2511	
			BAFF24UTGTHTAR2521	
		BAFF24-REF-HTAR-COMP-METALS-4	BAFF24UTGTHTAR2507	3
			BAFF24UTGTHTAR2512	
			BAFF24UTGTHTAR2519	
		BAFF24-REF-HTAR-COMP-METALS-5	BAFF24UTGTHTAR2504	3
			BAFF24UTGTHTAR2514	
			BAFF24UTGTHTAR2516	
		BAFF24-REF-HTAR-COMP-METALS-6	BAFF24UTGTHTAR2501	3
			BAFF24UTGTHTAR2509	
			BAFF24UTGTHTAR2510	

Note: No samples were analyzed for polycyclic aromatic hydrocarbons in 2024.

Table 7B-3: Concentrations of Metals in Arctic Char Muscle Tissue Collected from the Milne Inlet Area, 2024

Parameter	DL	Fish Identification Number							
		BAFF23UDPFARCH4001	BAFF24UDPFARCH4002	BAFF24UIPFARCH4003	BAFF24UIPFARCH4004	BAFF24UIPFARCH4005	BAFF24UIPFARCH4008	BAFF24UIPFARCH4010	BAFF24UIPFARCH4012
Moisture (%)	0.30	73	70	72	66	64	71	73	73
Total Metals (mg/kg ww)									
Aluminum	0.50	0.60	1.61	0.82	0.84	0.58	1.20	32.4	1.43
Antimony	0.0020	0.0022	0.0068	0.0041	0.0028	0.0031	0.0038	<0.0020	0.0045
Arsenic	0.0050	0.992	0.953	1.00	1.71	1.19	0.886	0.515	0.764
Barium	0.010	0.012	0.033	0.087	<0.010	<0.010	<0.010	<0.010	0.013
Beryllium	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Bismuth	0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
Boron	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cadmium	0.0013	0.0069	0.0056	0.0053	0.0055	0.0047	0.0033	0.0025	0.0228
Calcium	4.0	251	252	110	79.2	75.2	83.0	80.9	111
Chromium	0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.233	<0.025	<0.025
Cobalt	0.0013	0.0067	0.0070	0.0056	0.0059	0.0047	0.0039	0.0047	0.0058
Copper	0.013	0.225	0.752	0.393	0.958	0.536	0.306	0.486	0.282
Iron	0.25	4.25	32.9	5.06	7.29	4.06	5.69	2.35	5.99
Lead	0.0013	0.0029	0.0239	0.0044	0.0039	0.0017	0.0028	0.0137	0.0063
Magnesium	0.40	339	282	318	287	264	297	337	317
Manganese	0.010	0.095	0.108	0.107	0.114	0.068	0.087	0.125	0.096
Mercury	0.0010 - 0.0020	0.0699	0.0531	0.0419	0.0541	0.0483	0.0423	0.0335	0.142
Molybdenum	0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	0.0093	<0.0080	<0.0080
Nickel	0.010	0.049	0.049	0.065	0.051	<0.010	0.075	<0.010	0.012
Phosphorus	2.0	3360	3290	3170	2930	2740	2900	3150	3050
Potassium	2.5	4990	4550	4720	4150	3910	4590	4960	4650
Selenium	0.010	0.483	0.433	0.369	0.468	0.308	0.358	0.304	0.448
Silver	0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
Sodium	2.5	305	455	419	401	431	386	315	394
Strontium	0.013	0.261	0.366	0.285	0.148	0.129	0.134	0.145	0.137
Thallium	0.00040	0.00347	0.00310	0.00195	0.00237	0.00147	0.00187	0.00192	0.00476
Tin	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Titanium	0.13	0.44	0.48	0.41	0.41	0.37	0.37	0.36	0.51
Uranium	0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Vanadium	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Zinc	0.20	5.74	6.28	6.91	6.88	4.19	4.02	5.00	4.54

% = percent; mg/kg ww = milligram per killigram wet weight; DL = Detection Limit; < = less than.

Table 7B-4: Concentrations of Metals in Fourhorn Sculpin Muscle Tissue Collected from the Milne Port Area and Koluktoo Bay Reference Area, 2024

Parameter	DL	Fish Identification Number															
		Milne Port								Koluktoo Bay							
		BAFF24UDPFF HSC1004	BAFF24UDPFF HSC1012	BAFF24UDPFF HSC1015	BAFF24UDPFF HSC1016[a]	BAFF24UDPFF HSC1023	BAFF24UDPFF HSC1034	BAFF24UIPFF HSC1038	BAFF24UIPFF HSC1040	BAFF24UKLKF HSC2002	BAFF24UKLKF HSC2004	BAFF24UKLKF HSC2005	BAFF24UKLKF HSC2015	BAFF24UKLKF HSC2019	BAFF24UKLKF HSC2031	BAFF24UKLKF HSC2035	BAFF24UKLKF HSC2037
Moisture (%)	0.30	77	80	78	77	73	79	81	76	79	88	79	76	76	75	74	75
Total Metals (mg/kg ww)																	
Aluminum	0.50	1.24	1.32	1.77	1.36	1.89	1.53	1.59	0.57	1.85	1.67	1.39	1.26	0.71	0.62	0.77	1.21
Antimony	0.0020	0.0034	0.0069	0.0021	0.03	0.0044	0.0080	0.0020	0.0054	0.0039	0.0085	0.0048	0.0063	0.0030	0.0025	0.0070	0.0066
Arsenic	0.0050	2.15	3.25	3.84	3.24	2.79	3.61	2.59	6.03	8.42	5.78	1.91	1.98	2.87	5.46	3.99	3.02
Barium	0.010	0.017	0.030	0.016	0.07	0.185	0.021	0.034	0.028	0.031	0.042	0.051	0.099	0.016	0.041	0.093	0.022
Beryllium	0.0020	<0.0020	<0.0020	<0.0020	0.00	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Bismuth	0.0013	0.0020	0.0026	<0.0013	0.01	0.0028	<0.0013	0.0041	0.0048	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
Boron	0.20	<0.20	<0.20	<0.20	0.22	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cadmium	0.0013	0.0069	0.0077	0.0042	0.01	0.0118	0.0163	0.0035	0.0054	0.0051	0.0044	0.0037	0.0086	0.0082	0.0122	0.0089	0.0072
Calcium	4.0	129	111	138	518.00	3540	168	261	125	236	104	108	306	141	117	111	129
Chromium	0.025	<0.025	0.055	<0.025	0.08	0.050	0.260	<0.025	<0.025	<0.025	0.051	<0.025	0.034	<0.025	<0.025	<0.025	0.148
Cobalt	0.0013	0.0140	0.0162	0.0075	0.01	0.0128	0.0144	0.0089	0.0052	0.0116	0.0221	0.0094	0.0164	0.0128	0.0154	0.0146	0.0068
Copper	0.013	0.499	0.638	0.316	0.44	0.596	0.680	0.431	0.388	0.463	0.722	0.367	0.441	0.374	0.393	0.384	0.315
Iron	0.25	5.69	8.30	5.72	19.20	10.3	14.5	6.04	5.69	5.22	12.7	42.5	11.8	5.48	5.97	6.47	7.06
Lead	0.0013	0.0085	0.0093	0.0072	0.02	0.0114	0.0078	0.0034	0.0022	0.0046	0.0087	0.0077	0.0098	0.0042	0.0040	0.0123	0.0056
Magnesium	0.40	199	205	291	272.00	299	188	239	196	255	205	230	219	309	234	272	225
Manganese	0.010	0.154	0.170	0.153	0.43	0.636	0.271	0.183	0.110	0.513	0.159	0.275	0.357	0.210	0.193	0.265	0.174
Mercury	0.0020 - 0.010	0.204	0.320	0.105	0.14	0.127	0.144	0.147	0.218	0.363	0.156	0.104	0.0928	0.0983	0.332	0.0667	0.135
Molybdenum	0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080
Nickel	0.010	0.014	0.060	0.010	0.37	0.048	0.027	0.041	0.021	0.028	0.032	0.258	0.088	0.027	0.030	0.011	0.013
Phosphorus	2.0	2070	1990	2190	2730.00	4260	2210	2170	2100	2350	2000	2130	2270	2200	2220	2220	2070
Potassium	2.5	3620	3320	3870	3780.00	3890	3600	3760	3760	3820	3660	3620	3850	3810	3720	3550	3490
Selenium	0.010	0.489	0.450	0.485	0.59	0.717	0.614	0.446	0.570	0.782	0.504	0.445	0.509	0.703	0.642	0.741	0.567
Silver	0.0013	<0.0013	<0.0013	<0.0013	0.01	<0.0013	0.0016	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
Sodium	2.5	679	894	586	798.00	710	647	726	731	923	1150	829	781	705	739	709	675
Strontium	0.013	0.442	0.585	0.337	2.43	17.9	0.493	1.45	0.520	1.71	0.623	0.402	1.31	0.424	0.682	0.419	0.534
Thallium	0.00040	0.00106	0.00062	0.00055	0.00	0.00126	0.00131	0.00077	0.00097	0.00058	0.00107	0.00084	0.00079	0.00050	0.00117	0.00058	0.00070
Tin	0.020	<0.020	0.021	0.021	0.05	0.025	0.035	0.023	<0.020	0.036	0.044	0.024	<0.020	<0.020	<0.020	<0.020	<0.020
Titanium	0.13	0.32	0.28	0.33	0.31	0.57	0.31	0.28	0.29	0.39	0.31	0.27	0.27	0.31	0.29	0.27	0.28
Uranium	0.00040	<0.00040	0.00203	0.00048	0.00	0.00418	<0.00040	<0.00040	<0.00040	0.00056	<0.00040	<0.00040	0.00049	<0.00040	<0.00040	<0.00040	<0.00040
Vanadium	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.026	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Zinc	0.20	12.2	15.7	10.1	20.40	30.6	20.3	11.4	13.0	32.1	17.3	11.0	15.6	20.1	34.3	13.4	12.2

% = percent; mg/kg ww = milligram per killigram wet weight; DL = Detection Limit; < = less than; - not measured.

Table 7B-5: Concentrations of Metals in *Hiatella arctica* Tissue Collected from the Milne Port Area and Tugaat River Estuary Reference Area, 2024

Parameter	DL	Fish Identification Number														
		Milne Port								Tugaat River Estuary						
		BAFF24-MLN-HTAR-COMP-METAL-1	BAFF24-MLN-HTAR-COMP-METAL-2	BAFF24-MLN-HTAR-COMP-METAL-3	BAFF24-MLN-HTAR-COMP-METAL-4	BAFF24-MLN-HTAR-COMP-METAL-5	BAFF24-MLN-HTAR-COMP-METAL-6	BAFF24-MLN-HTAR-COMP-METAL-7	BAFF24-MLN-HTAR-COMP-METAL-8	BAFF24-REF-HTAR-COMP-METAL-1[a]	BAFF24-REF-HTAR-COMP-METAL-2	BAFF24-REF-HTAR-COMP-METAL-2 REPEAT	BAFF24-REF-HTAR-COMP-METAL-3	BAFF24-REF-HTAR-COMP-METAL-4	BAFF24-REF-HTAR-COMP-METAL-5	BAFF24-REF-HTAR-COMP-METAL-6
Moisture (%)	0.30	79	82	81	79	82	80	83	81	78	76		75	78	82	79
Total Metals (mg/kg ww)																
Aluminum	0.50	63.5	64.9	123	67.6	21.1	29.3	47.7	25.3	112	304	253	140	133	71.0	90.7
Antimony	0.0020	0.0045	0.0129	0.0036	0.0064	0.0051	0.0038	0.0234	0.0027	0.0046	0.0140	N/A	0.0042	0.0050	0.0038	0.0056
Arsenic	0.0050	1.72	1.75	2.16	1.97	1.75	1.52	2.18	2.05	1.78	2.57	N/A	2.25	2.21	1.83	2.18
Barium	0.010	3.71	20.3	4.35	3.90	53.1	4.63	31.8	5.29	15.9	38.3	N/A	2.93	56.4	142	8.61
Beryllium	0.0020	0.0045	0.0035	0.0077	0.0044	0.0020	0.0023	0.0067	0.0021	0.0058	0.0196	N/A	0.0068	0.0114	0.0058	0.0065
Bismuth	0.0013	0.0078	0.0023	0.0027	0.0028	0.0023	0.0016	0.0027	0.0018	0.0024	0.0049	N/A	0.0036	0.0043	0.0022	0.0020
Boron	0.20	2.36	3.03	3.08	2.88	2.09	2.43	2.81	2.78	2.98	4.43	N/A	5.20	3.57	2.72	2.73
Cadmium	0.0013	0.816	0.931	1.04	0.804	0.801	1.28	0.817	0.902	1.11	1.30	N/A	0.857	1.12	0.732	1.27
Calcium	4.0	1220	1130	1430	1340	684	877	988	939	1140	2260	1880	1510	1270	863	892
Chromium	0.025	0.189	0.251	0.389	0.251	0.187	0.153	0.375	0.167	0.233	0.719	0.679	0.288	0.436	0.319	0.362
Cobalt	0.0013	0.244	0.331	0.295	0.257	0.255	0.264	0.302	0.199	0.240	0.485	N/A	0.250	0.358	0.309	0.266
Copper	0.013	1.65	1.70	1.60	1.49	1.58	1.25	1.44	1.16	1.67	2.09	N/A	2.03	1.66	1.24	1.07
Iron	0.25	151	146	256	164	82.5	79.8	132	85.7	177	528	445	216	253	141	159
Lead	0.0013	0.0953	0.0908	0.132	0.0932	0.0510	0.0503	0.0772	0.0435	0.224	0.352	N/A	0.209	0.190	0.112	0.119
Magnesium	0.40	825	1000	1040	647	841	911	1050	851	980	1310	N/A	852	1180	883	1040
Manganese	0.010	21.9	30.9	18.0	17.8	20.5	27.3	18.6	14.3	15.7	42.1	31.2	20.3	19.0	22.1	17.7
Mercury	0.0010-0.0020	0.0302	0.0368	0.0460	0.0296	0.0493	0.0487	0.0504	0.0397	0.0203	0.0432	N/A	0.0271	0.0484	0.0289	0.0264
Molybdenum	0.0080	0.190	0.191	0.168	0.122	0.173	0.157	0.171	0.153	0.290	0.196	N/A	0.143	0.184	0.159	0.112
Nickel	0.010	0.426	0.662	0.634	0.447	0.597	0.565	0.727	0.505	0.414	0.846	N/A	0.453	0.805	0.619	0.695
Phosphorus	2.0	1480	1250	1150	2030	1330	1310	952	1210	1530	1340	N/A	1500	1550	1210	1190
Potassium	2.5	959	1090	834	1070	993	1190	882	1080	1450	1230	N/A	1500	1160	1170	1210
Selenium	0.010	1.66	1.66	1.58	1.55	1.32	1.71	1.55	1.83	1.75	1.97	N/A	2.18	1.96	1.51	1.02
Silver	0.0013	0.0087	0.0072	0.0065	0.0046	0.0107	0.0051	0.0067	0.0030	0.0328	0.0097	N/A	0.0105	0.0094	0.0136	0.0110
Sodium	2.5	2800	5000	3980	2190	4300	5190	5620	4940	4770	4750	N/A	4590	4890	4910	5620
Strontium	0.013	9.48	11.2	12.3	9.64	9.99	8.17	12.6	9.96	10.1	16.7	N/A	12.3	12.2	14.1	8.13
Thallium	0.00040	0.00289	0.00481	0.00393	0.00404	0.00213	0.00213	0.00448	0.00205	0.00349	0.00829	0.00755	0.00412	0.00449	0.00345	0.00416
Tin	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	N/A	<0.020	<0.020	<0.020	<0.020
Titanium	0.13	2.25	1.94	3.66	2.24	0.66	0.83	1.35	0.98	3.98	13.3	10.5	4.62	5.09	2.52	3.11
Uranium	0.00040	0.0555	0.0910	0.0870	0.0712	0.0757	0.0570	0.114	0.0659	0.0608	0.161	N/A	0.0706	0.125	0.104	0.119
Vanadium	0.020	0.697	0.717	0.820	0.910	0.516	0.446	0.767	0.510	0.602	1.18	N/A	0.755	0.874	0.562	0.829
Zinc	0.20	17.2	16.7	16.1	13.1	13.1	17.4	16.8	13.8	14.0	19.9	N/A	16.4	17.4	11.4	10.3

% = percent; mg/kg ww = milligram per killigram wet weight; DL = Detection Limit; < = less than; n/a = not applicable.

Table 7B-6: Concentrations of Polycyclic Aromatic Hydrocarbons in Arctic Char Muscle Tissue Collected from the Milne Port Area, 2024

Parameter	DL	Fish Identification Number							
		BAFF23UDPFARCH4001	BAFF24UDPFARCH4002	BAFF24UIPFARCH4003	BAFF24UIPFARCH4004	BAFF24UIPFARCH4005	BAFF24UIPFARCH4008	BAFF24UIPFARCH4010	BAFF24UIPFARCH4012
Polycyclic Aromatic Hydrocarbons (mg/kg ww)									
1-Methylnaphthalene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-Methylnaphthalene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(j)fluoranthene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Perylene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Naphthalene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phenanthrene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyrene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)anthracene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chrysene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(b)fluoranthene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Surrogate Recovery (%)									
Anthracene-D_{10}	-	94	94	89	91	84	93	83	83
Acenaphthylene-D_8	-	93	92	89	90	82	92	82	81
Terphenyl-D_{14}	-	97	96	94	94	88	95	97	97

Table 7B-7: Concentrations of Polycyclic Aromatic Hydrocarbons in Fourhorn Sculpin Muscle Tissue Collected from the Milne Port Area and Koluktoo Bay Reference Area, 2024

Parameter	DL	Fish Identification Number															
		Milne Port								Koluktoo Bay							
		BAFF24UDPFF HSC1004	BAFF24UDPFF HSC1012	BAFF24UDPFF HSC1015	BAFF24UDPFF HSC1016	BAFF24UDPFF HSC1023	BAFF24UDPFF HSC1034	BAFF24UIPFF HSC1038	BAFF24UIPFF HSC1040	BAFF24UKLK FHSC2002	BAFF24UKLK FHSC2004	BAFF24UKLK FHSC2005	BAFF24UKLK FHSC2015	BAFF24UKLK FHSC2019	BAFF24UKLK FHSC2031	BAFF24UKLK FHSC2035	BAFF24UKLK FHSC2037
Polycyclic Aromatic Hydrocarbons (mg/kg ww)																	
1-Methylnaphthalene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
2-Methylnaphthalene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Benzo(j)fluoranthene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Perylene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Naphthalene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Acenaphthene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Fluorene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Phenanthrene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Anthracene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Fluoranthene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Pyrene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Benzo(a)anthracene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Chrysene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Benzo(b)fluoranthene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	0.050 – 0.053	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.053	<0.050	<0.050	<0.050	<0.050
Surrogate Recovery (%)																	
Anthracene-D_{10}	-	91	88	91	94	95	93	92	94	92	94	95	95	96	96	93	91
Acenaphthylene-D_8	-	90	89	89	92	94	92	91	93	92	93	94	92	95	93	92	92
Terphenyl-D_{14}	-	98	104	98	99	100	96	96	97	95	96	96	97	98	100	95	95

Table 7B-8: Concentrations of Polycyclic Aromatic Hydrocarbons in *Hiatella arctica* Tissues Collected from the Milne Port Area and Tugaat River Estuary Reference Area, 2024

No samples were analyzed for PAHs in Hiatella arctica in 2024. Appendix included as a placeholder.

Table 7B-9: Tissue Chemistry Summary Statistics for Fourhorn Sculpin from the Milne Port Area, 2019 to 2024

Parameter	2019							2020							2021							2022						
(mg / kg ww)	N >DL / N Total	Min	Max	Median	Mean	SD	SE	N >DL / N Total	Min	Max	Median	Mean	SD	SE	N >DL / N Total	Min	Max	Median	Mean	SD	SE	N >DL / N Total	Min	Max	Median	Mean	SD	SE
Aluminum	30 / 30	0.75	11	1.9	2.9	2.4	0.44	7 / 8	<0.20	1.2	0.29	0.40	0.35	0.12	8 / 8	0.28	1.3	0.53	0.56	0.31	0.11	7 / 8	<0.50	1.4	0.75	0.78	0.33	0.12
Antimony	15 / 30	<0.0020	0.0030	<0.0020	<0.0020	0.00074	0.00014	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	-	-	7 / 8	<0.0010	0.0028	0.0013	0.0014	0.00071	0.00025	7 / 8	<0.0020	0.0044	0.0028	0.0027	0.00094	0.00033
Arsenic	30 / 30	0.51	6.6	1.8	1.8	1.1	0.20	8 / 8	1.7	3.3	2.2	2.4	0.62	0.22	8 / 8	2.1	4.9	3.6	3.4	1.0	0.36	8 / 8	1.8	5.9	3.3	3.5	1.4	0.49
Barium	30 / 30	0.030	0.40	0.15	0.15	0.087	0.016	8 / 8	0.027	0.086	0.057	0.054	0.021	0.0075	7 / 8	<0.010	0.060	0.031	0.031	0.021	0.0074	6 / 8	<0.010	0.019	0.012	0.012	0.0050	0.0018
Beryllium	0 / 30	<0.0020	<0.0020	<0.0020	<0.0020	-	-	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	-	-	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	0.00018	0.000063	0 / 8	<0.0020	<0.0020	<0.0020	<0.0020	-	-
Bismuth	26 / 30	<0.0013	0.0052	0.0029	0.0027	0.0012	0.00022	5 / 8	<0.0010	0.0052	0.0014	0.0018	0.0017	0.00059	7 / 8	<0.0010	0.0031	0.0019	0.0019	0.00079	0.00028	8 / 8	0.0016	0.0029	0.0022	0.0022	0.00041	0.00015
Boron	23 / 30	<0.20	0.60	0.24	0.23	0.10	0.018	0 / 8	<0.20	<0.20	<0.20	<0.20	-	-	2 / 8	<0.20	0.54	<0.20	<0.20	0.16	0.058	0 / 8	<0.20	<0.20	<0.20	<0.20	-	-
Cadmium	30 / 30	0.0055	0.13	0.025	0.037	0.034	0.0062	7 / 8	<0.0010	0.0088	0.0023	0.0028	0.0026	0.00092	8 / 8	0.0041	0.0095	0.0055	0.0058	0.0017	0.00062	8 / 8	0.0027	0.012	0.0059	0.0057	0.0029	0.0010
Calcium	30 / 30	470	4300	2200	2200	1200	220	8 / 8	610	910	710	760	110	40	8 / 8	190	1200	490	540	370	130	8 / 8	100	140	120	120	15	5.4
Cesium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	21 / 30	<0.025	0.16	0.031	0.040	0.035	0.0063	8 / 8	0.023	0.50	0.16	0.20	0.17	0.060	7 / 8	<0.010	0.038	0.020	0.021	0.011	0.0038	3 / 8	<0.025	0.030	<0.025	<0.025	0.0084	0.0030
Cobalt	30 / 30	0.0045	0.024	0.012	0.012	0.0041	0.00074	8 / 8	0.0048	0.0080	0.0062	0.0061	0.0010	0.00036	8 / 8	0.0065	0.012	0.0078	0.0083	0.0019	0.00066	8 / 8	0.0094	0.21	0.012	0.037	0.070	0.025
Copper	30 / 30	0.28	1.0	0.56	0.59	0.21	0.038	8 / 8	0.32	1.0	0.43	0.50	0.23	0.080	8 / 8	0.45	0.71	0.47	0.51	0.089	0.031	8 / 8	0.29	0.54	0.35	0.36	0.080	0.028
Iron	30 / 30	3.6	24	9.0	9.9	4.6	0.84	8 / 8	3.7	10	6.3	6.6	2.1	0.73	8 / 8	5.4	9.2	6.7	6.9	1.4	0.48	8 / 8	3.5	8.1	6.5	6.3	1.4	0.51
Lead	30 / 30	0.0055	0.054	0.015	0.019	0.012	0.0021	8 / 8	0.0013	0.0047	0.0018	0.0022	0.0011	0.00041	8 / 8	0.0037	0.013	0.0054	0.0063	0.0031	0.0011	8 / 8	0.0054	0.032	0.0065	0.011	0.0090	0.0032
Lithium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	30 / 30	190	410	270	280	45	8.2	8 / 8	260	300	300	290	14	4.8	8 / 8	240	310	280	280	28	9.8	8 / 8	250	320	270	280	23	8.1
Manganese	30 / 30	0.15	0.87	0.34	0.36	0.16	0.029	8 / 8	0.26	0.41	0.30	0.32	0.049	0.017	8 / 8	0.18	0.35	0.26	0.27	0.053	0.019	8 / 8	0.12	0.26	0.18	0.19	0.055	0.020
Mercury	30 / 30	0.055	0.28	0.15	0.14	0.053	0.0096	8 / 8	0.069	0.15	0.11	0.11	0.029	0.010	8 / 8	0.10	0.42	0.20	0.23	0.11	0.040	8 / 8	0.15	0.43	0.25	0.26	0.089	0.032
Molybdenum	4 / 30	<0.0080	0.012	<0.0080	<0.0080	0.0021	0.00038	5 / 8	<0.0040	0.010	0.0053	0.0049	0.0029	0.0010	0 / 8	<0.0040	<0.0040	<0.0040	<0.0040	0.00071	0.00025	0 / 8	<0.0080	<0.0080	<0.0080	<0.0080	-	-
Nickel	30 / 30	0.014	0.054	0.030	0.031	0.010	0.0018	6 / 8	<0.010	0.020	0.015	0.013	0.0057	0.0020	8 / 8	0.015	0.079	0.023	0.028	0.021	0.0074	8 / 8	0.017	0.042	0.022	0.025	0.0084	0.0030
Phosphorus	30 / 30	1800	4300	2600	2800	700	130	8 / 8	2600	2900	2800	2700	130	46	8 / 8	2000	2700	2500	2400	210	76	8 / 8	1900	2300	2200	2100	120	42
Potassium	30 / 30	2200	3600	2900	2900	340	63	8 / 8	3900	4300	4100	4000	120	44	8 / 8	3400	3900	3700	3600	160	57	8 / 8	3400	3900	3600	3600	180	62
Rubidium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	30 / 30	0.34	0.64	0.52	0.51	0.080	0.015	8 / 8	0.37	0.48	0.41	0.42	0.037	0.013	8 / 8	0.41	0.57	0.50	0.49	0.061	0.021	8 / 8	0.44	0.63	0.53	0.53	0.062	0.022
Silver	3 / 30	<0.0013	0.0023	<0.0013	<0.0013	0.00034	0.000062	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	-	-	1 / 8	<0.0010	0.0015	<0.0010	<0.0010	-	-	1 / 8	<0.0013	0.0017	<0.0013	<0.0013	-	-
Sodium	30 / 30	890	1700	1300	1300	200	36	8 / 8	480	740	550	570	89	32	8 / 8	550	1000	750	750	160	56	8 / 8	500	770	580	600	94	33
Strontium	30 / 30	2.4	30	14	14	8.2	1.5	8 / 8	2.4	5.0	3.5	3.6	0.88	0.31	8 / 8	0.91	7.3	2.4	2.9	2.3	0.80	8 / 8	0.34	0.75	0.50	0.52	0.13	0.046
Tellurium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	29 / 30	<0.00040	0.0023	0.00087	0.00095	0.00043	0.000078	8 / 8	<0.020	<0.020	<0.020	<0.020	0.00024	0.000087	8 / 8	0.00050	0.0010	0.00076	0.00075	0.00015	0.000054	8 / 8	0.00059	0.0011	0.00077	0.00083	0.00018	0.000065
Tin	19 / 30	<0.020	1.4	0.027	0.10	0.26	0.047	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-	5 / 8	<0.020	0.19	0.025	0.042	0.061	0.021	5 / 8	<0.020	0.042	0.023	0.023	0.013	0.0045
Titanium	30 / 30	0.27	1.0	0.45	0.48	0.16	0.029	8 / 8	0.17	0.22	0.21	0.21	0.018	0.0065	8 / 8	0.30	0.52	0.37	0.37	0.065	0.023	8 / 8	0.42	0.50	0.46	0.46	0.030	0.011
Uranium	30 / 30	0.00045	0.020	0.0035	0.0045	0.0041	0.00074	6 / 8	<0.00040	0.0014	0.00072	0.00067	0.00039	0.00014	5 / 8	<0.00040	0.0014	0.00077	0.00067	0.00044	0.00016	8 / 8	0.00075	0.0027	0.00099	0.0012	0.00065	0.00023
Vanadium	0 / 30	<0.020	<0.020	<0.020	<0.020	-	-	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-	1 / 8	<0.020	0.056	<0.020	<0.020	-	-	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-
Zinc	30 / 30	12	27	17	18	3.9	0.72	8 / 8	9.6	18	12	13	3.3	1.2	8 / 8	9.6	26	18	17	5.9	2.1	8 / 8	9.7	18	14	14	3.1	1.1
Zirconium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

mg / kg = milligram per kilogram wet weight; > = greater than; < = less than; DL = detection limit; n = sample size; min = minimum; max = maximum; SD = standard deviation; SE = standard error; - = not applicable.

Parameter	2023							2024						
(mg / kg ww)	N >DL / N Total	Min	Max	Median	Mean	SD	SE	N >DL / N Total	Min	Max	Median	Mean	SD	SE
Aluminum	7 / 8	<0.20	0.87	0.45	0.53	0.27	0.095	8 / 8	0.57	1.9	1.4	1.4	0.41	0.14
Antimony	5 / 8	<0.0010	0.0015	<0.0010	<0.0010	0.00041	0.00015	8 / 8	<0.0020	0.025	0.0049	0.0072	0.0076	0.0027
Arsenic	8 / 8	2.2	6.2	3.4	3.6	1.3	0.45	8 / 8	2.2	6.0	3.2	3.4	1.2	0.42
Barium	8 / 8	0.015	0.62	0.032	0.11	0.21	0.074	8 / 8	0.016	0.19	0.029	0.050	0.057	0.020
Beryllium	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	-	-	1 / 8	<0.0020	<0.0020	<0.0020	<0.0020	-	-
Bismuth	8 / 8	0.0012	0.0037	0.0020	0.0023	0.00095	0.00034	6 / 8	<0.0013	0.0063	0.0027	0.0031	0.0018	0.00064
Boron	0 / 8	<0.20	<0.20	<0.20	<0.20	-	-	1 / 8	<0.20	<0.20	<0.20	<0.20	-	-
Cadmium	8 / 8	0.0021	0.0093	0.0054	0.0056	0.0027	0.00097	8 / 8	0.0035	0.016	0.0073	0.0088	0.0049	0.0017
Calcium	8 / 8	300	1300	600	630	310	110	8 / 8	110	3500	150	620	1200	420
Cesium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	3 / 8	<0.010	0.026	<0.010	0.011	0.0091	0.0032	4 / 8	<0.025	0.26	0.034	0.061	0.085	0.030
Cobalt	8 / 8	0.0060	0.011	0.0078	0.0079	0.0017	0.00060	8 / 8	0.0052	0.016	0.013	0.011	0.0038	0.0013
Copper	8 / 8	0.35	0.52	0.47	0.45	0.060	0.021	8 / 8	0.32	0.68	0.47	0.50	0.13	0.045
Iron	8 / 8	4.7	12	6.9	7.7	2.3	0.82	8 / 8	5.7	19	7.2	9.4	5.0	1.8
Lead	8 / 8	0.0035	0.030	0.0095	0.012	0.0095	0.0034	8 / 8	0.0022	0.017	0.0082	0.0083	0.0046	0.0016
Lithium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	8 / 8	220	280	260	260	19	6.8	8 / 8	190	300	220	240	46	16
Manganese	8 / 8	0.20	0.33	0.25	0.26	0.045	0.016	8 / 8	0.11	0.64	0.18	0.26	0.18	0.064
Mercury	8 / 8	0.064	0.30	0.13	0.16	0.082	0.029	8 / 8	0.11	0.32	0.15	0.18	0.069	0.025
Molybdenum	0 / 8	<0.0040	<0.0040	<0.0040	<0.0040	-	-	0 / 8	<0.0080	<0.0080	<0.0080	<0.0080	-	-
Nickel	8 / 8	0.012	0.019	0.015	0.015	0.0027	0.00095	8 / 8	<0.010	0.37	0.034	0.074	0.12	0.043
Phosphorus	8 / 8	2300	2800	2600	2600	180	64	8 / 8	2000	4300	2200	2500	760	270
Potassium	8 / 8	3500	4100	3700	3800	210	73	8 / 8	3300	3900	3800	3700	180	65
Rubidium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	8 / 8	0.47	0.71	0.60	0.59	0.084	0.030	8 / 8	0.45	0.72	0.53	0.55	0.095	0.033
Silver	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	-	-	2 / 8	<0.0013	0.0056	<0.0013	<0.0013	0.0020	0.00069
Sodium	8 / 8	480	670	520	550	73	26	8 / 8	590	890	720	720	94	33
Strontium	8 / 8	1.5	7.5	3.1	3.4	2.1	0.73	8 / 8	0.34	18	0.55	3.0	6.1	2.1
Tellurium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	8 / 8	0.00088	0.0022	0.0013	0.0014	0.00042	0.00015	8 / 8	0.00055	0.0019	0.0010	0.0011	0.00043	0.00015
Tin	3 / 8	<0.020	0.023	<0.020	<0.020	0.0059	0.0021	6 / 8	<0.020	0.047	0.022	0.025	0.012	0.0041
Titanium	8 / 8	0.067	0.13	0.091	0.091	0.020	0.0071	8 / 8	0.28	0.57	0.31	0.34	0.096	0.034
Uranium	8 / 8	0.00074	0.0013	0.0011	0.0010	0.00021	0.000074	4 / 8	<0.00040	0.0042	<0.00040	0.0014	0.0018	0.00064
Vanadium	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-
Zinc	8 / 8	11	17	15	15	2.1	0.74	8 / 8	10	31	14	17	6.8	2.4
Zirconium	-	-	-	-	-	-	-	-	-	-	-	-	-	-

mg / kg = milligram per kilogram wet weight; > = greater than; < = less than; DL = detection limit; n = sample size; min = minimum; max = maximum; SD = standard deviation; SE = standard error; - = not applicable.

Table 7B-10: Tissue Chemistry Summary Statistics for *Hiatella arctica* from the Milne Port Area, 2018 to 2024

Parameter	2018							2019							2020						
(mg/kg ww)	N >DL/N Total	Min	Max	Median	Mean	SD	SE	N >DL/N Total	Min	Max	Median	Mean	SD	SE	N >DL/N Total	Min	Max	Median	Mean	SD	SE
Aluminum	24 / 24	170	920	520	520	200	40	80 / 80	110	2400	890	910	360	40	8 / 8	330	1800	690	760	440	160
Antimony	24 / 24	0.0039	0.0094	0.0066	0.0064	0.0016	0.00033	80 / 80	0.0043	0.042	0.018	0.018	0.0060	0.00067	8 / 8	0.0085	0.035	0.020	0.019	0.0082	0.0029
Arsenic	24 / 24	1.4	4.1	2.4	2.4	0.68	0.14	80 / 80	1.6	6.3	2.8	2.9	1.0	0.12	8 / 8	2.4	3.4	2.6	2.7	0.33	0.12
Barium	24 / 24	2.1	21	7.9	9.2	5.2	1.1	80 / 80	3.3	33	8.5	11	6.3	0.71	8 / 8	5.3	20	8.8	11	5.0	1.8
Beryllium	24 / 24	0.012	0.053	0.033	0.033	0.011	0.0023	80 / 80	0.0072	0.15	0.050	0.051	0.020	0.0022	8 / 8	0.021	0.097	0.041	0.044	0.024	0.0083
Bismuth	24 / 24	0.0029	0.012	0.0068	0.0069	0.0022	0.00045	80 / 80	0.0032	0.025	0.012	0.012	0.0035	0.00039	8 / 8	0.0050	0.024	0.0088	0.0099	0.0059	0.0021
Boron	24 / 24	3.3	9.0	6.1	6.0	1.4	0.29	80 / 80	3.1	17	8.5	8.9	2.7	0.30	8 / 8	4.4	13	6.6	7.0	2.8	0.98
Cadmium	24 / 24	0.27	2.5	0.56	0.68	0.47	0.097	80 / 80	0.16	1.3	0.45	0.50	0.22	0.024	8 / 8	0.43	0.76	0.61	0.62	0.10	0.036
Calcium	24 / 24	2000	12000	5100	5600	2500	520	80 / 80	1400	27000	7000	7900	4300	480	8 / 8	4000	11000	5400	6000	2300	810
Cesium	24 / 24	0.027	0.17	0.091	0.091	0.035	0.0072	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	24 / 24	0.61	2.6	1.5	1.5	0.55	0.11	80 / 80	0.41	7.3	2.5	2.7	1.0	0.12	8 / 8	5.9	64	31	28	18	6.4
Cobalt	24 / 24	0.22	1.7	0.71	0.78	0.39	0.080	80 / 80	0.29	4.0	1.0	1.2	0.75	0.083	8 / 8	0.76	2.5	1.4	1.5	0.54	0.19
Copper	24 / 24	1.5	3.3	2.0	2.1	0.40	0.082	80 / 80	1.4	4.5	2.2	2.3	0.55	0.062	8 / 8	1.8	4.0	2.8	2.9	0.82	0.29
Iron	24 / 24	510	2300	1300	1300	510	100	80 / 80	370	7000	2200	2300	1000	120	8 / 8	900	3900	2000	2100	960	340
Lead	24 / 24	0.20	1.8	0.69	0.74	0.35	0.071	80 / 80	0.15	3.4	1.2	1.3	0.49	0.055	8 / 8	0.43	4.3	0.99	1.4	1.3	0.45
Lithium	24 / 24	0.71	3.9	2.3	2.3	0.83	0.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	24 / 24	1200	5500	2600	2600	1100	220	80 / 80	1200	12000	3900	4100	1600	180	8 / 8	2400	5000	3000	3200	950	340
Manganese	24 / 24	4.8	330	71	90	75	15	80 / 80	14	630	88	140	140	15	8 / 8	74	270	140	160	72	26
Mercury	24 / 24	0.011	0.070	0.023	0.027	0.015	0.0030	80 / 80	0.015	0.078	0.030	0.033	0.014	0.0015	8 / 8	0.022	0.047	0.031	0.032	0.0087	0.0031
Molybdenum	24 / 24	0.13	0.52	0.26	0.26	0.10	0.021	80 / 80	0.13	1.3	0.29	0.37	0.19	0.021	8 / 8	0.28	1.3	0.72	0.71	0.31	0.11
Nickel	24 / 24	0.79	2.7	1.5	1.5	0.50	0.10	80 / 80	0.74	4.3	2.0	2.1	0.65	0.073	8 / 8	3.5	30	14	13	8.2	2.9
Phosphorus	24 / 24	730	2000	1200	1200	260	53	80 / 80	710	3200	1200	1400	550	61	8 / 8	1000	1600	1300	1300	200	72
Potassium	24 / 24	800	2100	1400	1400	270	55	80 / 80	870	2000	1200	1200	240	27	8 / 8	1300	1700	1400	1500	130	45
Rubidium	24 / 24	0.95	3.2	2.0	2.0	0.57	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	24 / 24	0.65	1.4	1.2	1.2	0.17	0.034	80 / 80	0.74	2.0	1.4	1.4	0.27	0.030	8 / 8	1.1	1.6	1.2	1.3	0.17	0.058
Silver	-	-	-	-	-	-	-	80 / 80	0.0019	0.022	0.0049	0.0058	0.0036	0.00041	8 / 8	0.0035	0.0083	0.0047	0.0048	0.0016	0.00055
Sodium	24 / 24	1900	6500	4000	4100	1200	250	80 / 80	1700	5700	4200	4200	870	97	8 / 8	3300	4500	3800	3800	460	160
Strontium	24 / 24	9.2	46	20	22	9.2	1.9	80 / 80	7.4	90	16	20	13	1.5	8 / 8	10	30	15	16	6.2	2.2
Tellurium	6 / 24	<0.0040	0.0052	<0.0040	<0.0040	0.0011	0.00023	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	24 / 24	0.0047	0.038	0.013	0.014	0.0075	0.0015	80 / 80	0.0037	0.064	0.021	0.023	0.011	0.0012	8 / 8	<0.020	0.042	<0.020	<0.020	0.010	0.0036
Tin	20 / 24	<0.020	0.35	0.033	0.046	0.067	0.014	79 / 80	<0.020	0.53	0.060	0.071	0.059	0.0066	8 / 8	0.086	0.36	0.16	0.18	0.086	0.030
Titanium	-	-	-	-	-	-	-	80 / 80	4.6	110	34	34	15	1.6	8 / 8	14	63	25	28	16	5.5
Uranium	24 / 24	0.082	0.19	0.12	0.13	0.030	0.0062	80 / 80	0.090	0.44	0.20	0.20	0.072	0.0081	8 / 8	0.087	0.28	0.14	0.15	0.056	0.020
Vanadium	24 / 24	0.80	4.0	2.4	2.4	0.90	0.18	80 / 80	0.83	7.5	3.8	3.9	1.3	0.15	8 / 8	1.9	6.9	3.4	3.4	1.6	0.55
Zinc	24 / 24	7.1	14	12	11	1.8	0.37	80 / 80	8.6	21	14	14	2.3	0.26	8 / 8	12	18	13	13	2.1	0.73
Zirconium	24 / 24	0.22	1.2	0.71	0.72	0.27	0.055	-	-	-	-	-	-	-	-	-	-	-	-	-	-

mg/kg = milligram per kilogram wet weight; > = greater than; DL = detection limit; n = sample size; min = minimum; max = maximum; SD = Standard deviation; SE = standard error.

Parameter	2021							2022							2023						
(mg/kg ww)	N >DL/N Total	Min	Max	Median	Mean	SD	SE	N >DL/N Total	Min	Max	Median	Mean	SD	SE	N >DL/N Total	Min	Max	Median	Mean	SD	SE
Aluminum	8 / 8	390	1500	830	850	410	150	8 / 8	410	1200	710	700	230	81	8 / 8	160	1800	540	690	500	180
Antimony	8 / 8	0.011	0.032	0.017	0.018	0.0077	0.0027	8 / 8	0.015	0.030	0.026	0.024	0.0055	0.0020	8 / 8	0.0097	0.044	0.014	0.021	0.015	0.0052
Arsenic	8 / 8	2.2	6.2	3.1	3.6	1.5	0.52	8 / 8	2.2	3.4	3.0	2.9	0.52	0.19	8 / 8	1.5	5.3	2.8	3.1	1.5	0.53
Barium	8 / 8	5.2	14	9.2	9.8	3.1	1.1	8 / 8	3.5	33	9.1	12	10	3.5	8 / 8	2.3	15	7.3	8.5	5.1	1.8
Beryllium	8 / 8	0.021	0.081	0.043	0.045	0.022	0.0077	8 / 8	0.021	0.065	0.038	0.038	0.013	0.0046	8 / 8	0.0070	0.085	0.027	0.035	0.023	0.0083
Bismuth	8 / 8	0.0055	0.017	0.0095	0.0099	0.0040	0.0014	8 / 8	0.0051	0.017	0.0090	0.0099	0.0035	0.0012	8 / 8	0.0028	0.027	0.0069	0.0095	0.0078	0.0027
Boron	8 / 8	4.8	12	7.5	7.7	2.8	1.0	8 / 8	4.6	13	8.8	9.1	2.9	1.0	8 / 8	3.0	14	6.3	7.3	3.5	1.2
Cadmium	8 / 8	0.52	1.0	0.90	0.79	0.20	0.070	8 / 8	0.58	1.1	0.84	0.83	0.17	0.060	8 / 8	0.42	1.1	0.74	0.75	0.25	0.089
Calcium	8 / 8	4100	12000	6600	7600	3400	1200	8 / 8	4700	9500	6000	6400	1500	530	8 / 8	2000	10000	5000	6100	2900	1000
Cesium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	8 / 8	1.2	4.5	2.3	2.5	1.3	0.45	8 / 8	1.5	3.1	1.9	2.0	0.51	0.18	8 / 8	0.41	4.5	1.5	1.9	1.2	0.43
Cobalt	8 / 8	0.57	3.3	1.2	1.4	0.90	0.32	8 / 8	0.56	2.0	1.3	1.3	0.50	0.18	8 / 8	0.29	4.1	1.1	1.5	1.2	0.42
Copper	8 / 8	1.6	3.9	2.4	2.5	0.79	0.28	8 / 8	2.1	4.6	2.6	2.8	0.79	0.28	8 / 8	1.4	4.0	2.0	2.3	0.91	0.32
Iron	8 / 8	970	5200	2000	2500	1400	500	8 / 8	1500	3000	1900	2000	550	200	8 / 8	400	5100	2000	2400	1700	600
Lead	8 / 8	0.56	2.1	1.2	1.2	0.57	0.20	8 / 8	0.45	2.5	1.2	1.4	0.71	0.25	8 / 8	0.051	1.6	0.73	0.73	0.51	0.18
Lithium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	8 / 8	2000	5700	3400	3600	1500	530	8 / 8	2000	3400	2900	2800	460	160	8 / 8	1100	5000	2600	2900	1200	440
Manganese	8 / 8	55	610	160	190	180	63	8 / 8	59	280	170	160	78	28	8 / 8	20	440	130	180	140	49
Mercury	8 / 8	0.023	0.036	0.031	0.031	0.0039	0.0014	8 / 8	0.024	0.061	0.030	0.034	0.013	0.0045	8 / 8	0.014	0.044	0.029	0.028	0.011	0.0039
Molybdenum	8 / 8	0.22	0.68	0.31	0.36	0.16	0.056	8 / 8	0.27	0.44	0.35	0.36	0.051	0.018	8 / 8	0.13	0.65	0.28	0.36	0.18	0.063
Nickel	8 / 8	1.2	2.9	1.9	2.0	0.81	0.29	8 / 8	1.3	2.8	1.9	1.9	0.49	0.17	8 / 8	0.54	4.0	1.5	1.9	1.1	0.38
Phosphorus	8 / 8	1100	1700	1500	1500	200	70	8 / 8	1100	1900	1500	1500	290	100	8 / 8	1000	1500	1300	1300	190	67
Potassium	8 / 8	1300	2100	1600	1600	250	88	8 / 8	1200	2100	1600	1600	250	88	8 / 8	1100	1700	1400	1400	240	86
Rubidium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	8 / 8	1.2	1.7	1.4	1.4	0.16	0.055	8 / 8	1.2	1.5	1.4	1.3	0.10	0.036	8 / 8	0.67	1.9	1.4	1.4	0.43	0.15
Silver	8 / 8	0.0039	0.041	0.0075	0.011	0.012	0.0044	8 / 8	0.0046	0.013	0.0070	0.0076	0.0029	0.0010	8 / 8	0.0042	0.022	0.0091	0.0097	0.0057	0.0020
Sodium	8 / 8	2800	3900	3300	3300	410	140	8 / 8	3400	6300	5300	5200	1100	380	8 / 8	3300	6300	4500	4700	980	350
Strontium	8 / 8	11	45	25	26	12	4.1	8 / 8	19	49	27	31	9.9	3.5	8 / 8	10	45	21	24	12	4.2
Tellurium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	8 / 8	0.010	0.055	0.020	0.024	0.016	0.0056	8 / 8	0.0078	0.028	0.017	0.017	0.0063	0.0022	8 / 8	0.0039	0.045	0.013	0.018	0.013	0.0046
Tin	8 / 8	0.053	0.12	0.074	0.079	0.026	0.0094	8 / 8	0.038	0.070	0.047	0.048	0.010	0.0036	7 / 8	<0.020	0.10	0.040	0.045	0.029	0.010
Titanium	8 / 8	14	68	30	33	19	6.7	8 / 8	17	38	24	25	6.7	2.4	8 / 8	5.1	53	19	23	15	5.4
Uranium	8 / 8	0.11	0.28	0.15	0.18	0.068	0.024	8 / 8	0.13	0.22	0.16	0.16	0.029	0.010	8 / 8	0.013	0.27	0.10	0.12	0.079	0.028
Vanadium	8 / 8	1.8	5.4	3.3	3.5	1.5	0.55	8 / 8	1.5	4.8	3.1	3.2	1.1	0.38	8 / 8	0.78	7.8	2.4	3.2	2.2	0.77
Zinc	8 / 8	12	17	14	14	1.9	0.66	8 / 8	14	20	17	17	2.3	0.81	8 / 8	7.3	20	18	16	4.5	1.6
Zirconium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

mg/kg = milligram per kilogram wet weight; > = greater than; DL = detection limit; n = sample size; min = minimum; max = maximum; SD = Standard deviation; SE = standard error.

Parameter	2024						
(mg/kg ww)	N >DL/N Total	Min	Max	Median	Mean	SD	SE
Aluminum	8 / 8	21	120	56	55	33	12
Antimony	8 / 8	0.0027	0.023	0.0048	0.0078	0.0071	0.0025
Arsenic	8 / 8	1.5	2.2	1.9	1.9	0.24	0.084
Barium	8 / 8	3.7	53	5.0	16	18	6.4
Beryllium	8 / 8	<0.0020	0.0077	0.0040	0.0042	0.0021	0.00076
Bismuth	8 / 8	0.0016	0.0078	0.0025	0.0030	0.0020	0.00070
Boron	8 / 8	2.1	3.1	2.8	2.7	0.35	0.12
Cadmium	8 / 8	0.80	1.3	0.86	0.92	0.17	0.059
Calcium	8 / 8	680	1400	1100	1100	250	88
Cesium	-	-	-	-	-	-	-
Chromium	8 / 8	0.15	0.39	0.22	0.25	0.092	0.032
Cobalt	8 / 8	0.20	0.33	0.26	0.27	0.041	0.014
Copper	8 / 8	1.2	1.7	1.5	1.5	0.19	0.068
Iron	8 / 8	80	260	140	140	59	21
Lead	8 / 8	0.044	0.13	0.084	0.079	0.030	0.011
Lithium	-	-	-	-	-	-	-
Magnesium	8 / 8	650	1100	880	900	140	48
Manganese	8 / 8	14	31	20	21	5.5	1.9
Mercury	8 / 8	0.030	0.050	0.043	0.041	0.0085	0.0030
Molybdenum	8 / 8	0.12	0.19	0.17	0.17	0.022	0.0079
Nickel	8 / 8	0.43	0.73	0.58	0.57	0.11	0.037
Phosphorus	8 / 8	950	2000	1300	1300	320	110
Potassium	8 / 8	830	1200	1000	1000	120	42
Rubidium	-	-	-	-	-	-	-
Selenium	8 / 8	1.3	1.8	1.6	1.6	0.15	0.053
Silver	8 / 8	0.0030	0.011	0.0066	0.0066	0.0024	0.00085
Sodium	8 / 8	2200	5600	4600	4300	1200	430
Strontium	8 / 8	8.2	13	10	10	1.5	0.53
Tellurium	-	-	-	-	-	-	-
Thallium	8 / 8	0.0021	0.0048	0.0034	0.0033	0.0011	0.00040
Tin	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-
Titanium	8 / 8	0.66	3.7	1.6	1.7	1.0	0.35
Uranium	8 / 8	0.056	0.11	0.073	0.077	0.020	0.0069
Vanadium	8 / 8	0.45	0.91	0.71	0.67	0.17	0.059
Zinc	8 / 8	13	17	16	16	1.9	0.66
Zirconium	-	-	-	-	-	-	-

mg/kg = milligram per kilogram wet weight; > = greater than; DL = detection limit; n = sample size; min = minimum; max = maximum; SD = Standard deviation; SE = standard error.

Table 7B-11: Tissue Chemistry Summary Statistics for Arctic Char from the Milne Inlet Area, 2018 to 2024

Parameter	2018							2019							2020						
(mg/kg ww)	N >DL/N Total	Min	Max	Median	Mean	SD	SE	N >DL/N Total	Min	Max	Median	Mean	SD	SE	N >DL/N Total	Min	Max	Median	Mean	SD	SE
Aluminum	8 / 26	<0.20	0.81	<0.20	<0.20	0.18	0.036	45 / 47	<0.20	9.5	0.41	0.66	1.4	0.20	8 / 8	0.28	0.62	0.43	0.42	0.11	0.040
Antimony	0 / 26	<0.0010	<0.0010	<0.0010	<0.0010	-	-	0 / 47	<0.0010	<0.0010	<0.0010	<0.0010	-	-	1 / 8	<0.0010	0.0094	<0.0010	0.0016	-	-
Arsenic	26 / 26	0.31	1.2	0.46	0.53	0.22	0.043	47 / 47	0.33	2.9	0.81	0.80	0.37	0.055	8 / 8	0.39	33	0.83	4.9	11	4.0
Barium	1 / 26	<0.010	0.013	<0.010	<0.010	-	-	16 / 47	<0.010	0.036	<0.010	<0.010	0.0066	0.00097	5 / 8	<0.010	0.068	0.017	0.024	0.024	0.0084
Beryllium	0 / 26	<0.0010	<0.0010	<0.0010	<0.0010	-	-	0 / 47	<0.0010	<0.0010	<0.0010	<0.0010	-	-	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	-	-
Bismuth	0 / 26	<0.0010	<0.0010	<0.0010	<0.0010	-	-	0 / 47	<0.0010	<0.0010	<0.0010	<0.0010	-	-	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	-	-
Boron	0 / 26	<0.20	0.21	<0.20	<0.20	-	-	0 / 47	<0.20	<0.20	<0.20	<0.20	-	-	0 / 8	<0.20	<0.20	<0.20	<0.20	-	-
Cadmium	25 / 26	<0.0010	0.021	0.0030	0.0062	0.0059	0.0012	45 / 47	<0.0010	0.024	0.0052	0.0062	0.0052	0.00076	8 / 8	0.0012	0.017	0.0032	0.0062	0.0061	0.0021
Calcium	26 / 26	43	250	76	87	45	8.8	47 / 47	57	790	150	160	120	17	8 / 8	39	510	110	220	190	68
Cesium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	12 / 26	<0.010	0.050	<0.010	0.014	0.013	0.0025	33 / 47	<0.010	0.043	0.012	0.014	0.0088	0.0013	6 / 8	<0.010	1.5	0.030	0.22	0.53	0.19
Cobalt	26 / 26	0.0030	0.011	0.0047	0.0049	0.0015	0.00029	47 / 47	0.0024	0.013	0.0043	0.0049	0.0022	0.00031	8 / 8	0.0029	0.0057	0.0035	0.0038	0.0010	0.00035
Copper	26 / 26	0.35	0.69	0.50	0.51	0.088	0.017	47 / 47	0.29	0.74	0.39	0.41	0.090	0.013	8 / 8	0.17	0.35	0.33	0.30	0.059	0.021
Iron	26 / 26	3.0	5.8	4.4	4.4	0.74	0.14	47 / 47	2.3	21	4.0	4.5	2.7	0.40	8 / 8	2.4	17	4.7	5.9	4.5	1.6
Lead	10 / 26	<0.0010	0.0026	<0.0010	<0.0010	0.00070	0.00014	40 / 47	<0.0010	0.0054	0.0016	0.0018	0.00098	0.00014	8 / 8	0.0012	0.0052	0.0023	0.0024	0.0013	0.00046
Lithium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	26 / 26	260	310	280	280	12	2.3	47 / 47	260	370	300	300	22	3.3	8 / 8	220	350	300	300	37	13
Manganese	26 / 26	0.067	0.13	0.090	0.093	0.015	0.0030	47 / 47	0.060	0.32	0.092	0.10	0.038	0.0056	8 / 8	0.056	0.18	0.12	0.12	0.045	0.016
Mercury	26 / 26	0.027	0.10	0.038	0.043	0.016	0.0031	47 / 47	0.026	0.13	0.042	0.052	0.025	0.0036	8 / 8	0.023	0.30	0.043	0.073	0.092	0.032
Molybdenum	0 / 26	<0.0040	<0.0040	<0.0040	<0.0040	-	-	0 / 47	<0.0040	<0.0040	<0.0040	<0.0040	-	-	1 / 8	<0.0040	0.011	<0.0040	<0.0040	-	-
Nickel	21 / 26	<0.010	0.037	0.014	0.015	0.0073	0.0014	37 / 47	<0.010	0.024	0.013	0.013	0.0052	0.00076	5 / 8	<0.010	0.029	0.014	0.015	0.010	0.0036
Phosphorus	26 / 26	2800	3200	3000	3000	110	21	47 / 47	2500	3300	2900	2900	190	27	8 / 8	2400	4000	3100	3200	470	170
Potassium	26 / 26	4000	4700	4400	4400	160	31	47 / 47	3000	4900	4100	4000	440	64	8 / 8	4200	5400	4700	4700	430	150
Rubidium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	26 / 26	0.30	0.46	0.33	0.34	0.037	0.0073	47 / 47	0.23	0.64	0.38	0.40	0.080	0.012	8 / 8	0.29	0.39	0.31	0.32	0.031	0.011
Silver	2 / 26	<0.0010	0.0018	<0.0010	<0.0010	0.00027	0.000053	0 / 47	<0.0010	<0.0010	<0.0010	<0.0010	-	-	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	-	-
Sodium	26 / 26	360	800	490	500	96	19	47 / 47	310	1200	700	710	230	34	8 / 8	240	630	330	370	120	42
Strontium	26 / 26	0.079	0.64	0.18	0.20	0.11	0.022	47 / 47	0.14	1.7	0.43	0.48	0.26	0.039	8 / 8	0.088	1.6	0.34	0.59	0.55	0.20
Tellurium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	26 / 26	0.0021	0.0064	0.0029	0.0031	0.00082	0.00016	47 / 47	0.0012	0.0060	0.0022	0.0025	0.0010	0.00015	6 / 8	0.00071	0.0032	0.0020	0.0020	0.00072	0.00025
Tin	1 / 26	<0.020	0.036	<0.020	<0.020	-	-	4 / 47	<0.020	0.032	<0.020	<0.020	0.0047	0.00068	8 / 8	<0.020	0.038	0.028	0.026	0.011	0.0038
Titanium	26 / 26	0.085	0.15	0.12	0.12	0.016	0.0031	47 / 47	0.42	0.57	0.49	0.49	0.034	0.0050	8 / 8	0.12	0.17	0.14	0.14	0.018	0.0065
Uranium	1 / 26	<0.00040	0.00058	<0.00040	<0.00040	-	-	6 / 47	<0.00040	0.00091	<0.00040	<0.00040	0.00014	0.000020	2 / 8	<0.00040	0.0011	<0.00040	<0.00040	0.00034	0.00012
Vanadium	0 / 26	<0.020	<0.020	<0.020	<0.020	-	-	0 / 47	<0.020	<0.020	<0.020	<0.020	-	-	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-
Zinc	26 / 26	4.5	7.7	5.5	5.7	0.91	0.18	47 / 47	4.4	15	7.0	7.6	2.8	0.41	8 / 8	3.8	5.5	4.6	4.6	0.70	0.25
Zirconium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

mg/kg = milligram per kilogram wet weight; > = greater than; < = less than; DL = detection limit; n = sample size; min = minimum; max = maximum; SD = standard deviation; SE = standard error; - = not applicable.

Parameter	2021							2022							2023						
(mg/kg ww)	N >DL/N Total	Min	Max	Median	Mean	SD	SE	N >DL/N Total	Min	Max	Median	Mean	SD	SE	N >DL/N Total	Min	Max	Median	Mean	SD	SE
Aluminum	3 / 8	<0.20	8.1	<0.20	1.1	2.8	0.99	3 / 8	<0.50	1.3	<0.50	<0.50	0.39	0.14	6 / 8	<0.20	0.87	0.33	0.37	0.26	0.092
Antimony	4 / 8	<0.0010	0.0045	<0.0010	0.0013	0.0014	0.00048	6 / 8	<0.0020	0.019	0.0031	0.0046	0.0059	0.0021	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	-	-
Arsenic	8 / 8	0.10	5.5	2.8	2.6	2.0	0.70	8 / 8	0.37	0.72	0.53	0.52	0.12	0.043	8 / 8	0.45	1.3	0.77	0.85	0.31	0.11
Barium	1 / 8	<0.010	0.12	<0.010	0.020	-	-	5 / 8	<0.010	0.041	0.020	0.019	0.012	0.0043	5 / 8	<0.010	0.018	0.011	0.011	0.0052	0.0019
Beryllium	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	-	-	0 / 8	<0.0020	<0.0020	<0.0020	<0.0020	-	-	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	-	-
Bismuth	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	-	-	0 / 8	<0.0013	<0.0013	<0.0013	<0.0013	-	-	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	-	-
Boron	1 / 8	<0.20	0.27	<0.20	<0.20	-	-	0 / 8	<0.20	<0.20	<0.20	<0.20	-	-	0 / 8	<0.20	<0.20	<0.20	<0.20	-	-
Cadmium	5 / 8	<0.0010	0.0020	0.0015	0.0013	0.00065	0.00023	7 / 8	<0.0013	0.021	0.0028	0.0048	0.0065	0.0023	8 / 8	0.0015	0.012	0.0024	0.0040	0.0036	0.0013
Calcium	8 / 8	60	430	150	200	140	49	8 / 8	87	1400	130	360	460	160	8 / 8	70	530	180	210	140	50
Cesium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	3 / 8	<0.010	0.11	<0.010	0.020	0.037	0.013	1 / 8	<0.025	0.033	<0.025	<0.025	-	-	2 / 8	<0.010	0.029	<0.010	<0.010	0.0086	0.0030
Cobalt	8 / 8	0.0030	0.017	0.0039	0.0059	0.0048	0.0017	8 / 8	0.0037	0.050	0.0071	0.012	0.015	0.0054	8 / 8	0.0020	0.0075	0.0047	0.0045	0.0017	0.00062
Copper	8 / 8	0.30	0.61	0.40	0.42	0.097	0.034	8 / 8	0.27	0.58	0.32	0.36	0.098	0.035	8 / 8	0.29	0.63	0.33	0.38	0.13	0.045
Iron	8 / 8	3.1	87	4.0	15	29	10	8 / 8	3.5	10	4.2	5.4	2.4	0.84	8 / 8	3.6	13	6.6	6.8	2.8	1.0
Lead	6 / 8	<0.0010	0.062	0.0029	0.011	0.021	0.0074	8 / 8	0.0025	0.013	0.0044	0.0054	0.0035	0.0012	7 / 8	<0.0010	0.0055	0.0027	0.0030	0.0017	0.00058
Lithium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	8 / 8	270	380	310	310	32	11	8 / 8	260	360	320	310	30	11	8 / 8	260	350	300	300	32	11
Manganese	8 / 8	0.060	0.58	0.084	0.15	0.18	0.062	8 / 8	0.059	0.26	0.10	0.13	0.076	0.027	8 / 8	0.080	0.19	0.11	0.12	0.038	0.013
Mercury	8 / 8	0.025	0.060	0.041	0.042	0.013	0.0046	8 / 8	0.034	0.10	0.062	0.064	0.023	0.0081	8 / 8	0.012	0.059	0.024	0.029	0.015	0.0054
Molybdenum	1 / 8	<0.0040	0.012	<0.0040	<0.0040	-	-	0 / 8	<0.0080	<0.0080	<0.0080	<0.0080	-	-	1 / 8	<0.0040	<0.0040	<0.0040	<0.0040	-	-
Nickel	2 / 8	<0.010	0.052	<0.010	0.013	0.017	0.0060	6 / 8	<0.010	0.041	0.013	0.018	0.014	0.0049	5 / 8	<0.010	0.024	0.012	0.012	0.0067	0.0024
Phosphorus	8 / 8	3000	3400	3100	3100	150	54	8 / 8	2600	3500	3100	3100	340	120	8 / 8	2700	3600	3200	3100	280	100
Potassium	8 / 8	4000	5000	4500	4600	290	100	8 / 8	4100	5200	4400	4500	410	140	8 / 8	3800	5200	4700	4600	480	170
Rubidium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	8 / 8	0.18	0.48	0.42	0.40	0.096	0.034	8 / 8	0.34	0.48	0.40	0.40	0.045	0.016	8 / 8	0.32	0.43	0.34	0.37	0.046	0.016
Silver	0 / 8	<0.0010	<0.0010	<0.0010	<0.0010	-	-	2 / 8	<0.0013	0.0014	<0.0013	<0.0013	0.00035	0.00012	3 / 8	<0.0010	0.0036	<0.0010	0.0013	0.0013	0.00047
Sodium	8 / 8	240	420	280	300	59	21	8 / 8	270	460	320	340	68	24	8 / 8	260	430	350	350	51	18
Strontium	8 / 8	0.10	1.1	0.26	0.35	0.33	0.12	8 / 8	0.17	3.0	0.22	0.80	1.1	0.37	8 / 8	0.12	1.4	0.29	0.41	0.40	0.14
Tellurium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	8 / 8	0.0015	0.0087	0.0024	0.0032	0.0023	0.00082	8 / 8	0.0016	0.0037	0.0020	0.0023	0.00077	0.00027	8 / 8	0.0020	0.0048	0.0022	0.0026	0.00098	0.00035
Tin	1 / 8	<0.020	0.069	<0.020	<0.020	-	-	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-
Titanium	8 / 8	0.42	1.1	0.44	0.52	0.22	0.076	8 / 8	0.50	0.74	0.62	0.63	0.080	0.028	8 / 8	0.085	0.12	0.10	0.10	0.014	0.0049
Uranium	1 / 8	<0.00040	0.0077	<0.00040	0.0011	-	-	6 / 8	<0.00040	0.0018	0.00081	0.00095	0.00064	0.00023	4 / 8	<0.00040	0.00061	<0.00040	<0.00040	0.00018	0.000065
Vanadium	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-
Zinc	8 / 8	4.4	9.8	4.8	5.6	1.8	0.65	8 / 8	3.9	8.1	5.0	5.2	1.3	0.46	8 / 8	3.6	6.1	5.0	4.8	0.79	0.28
Zirconium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

mg/kg = milligram per kilogram wet weight; > = greater than; < = less than; DL = detection limit; n = sample size; min = minimum; max = maximum; SD = standard deviation; SE = standard error; - = not applicable.

Parameter	2024						
(mg/kg ww)	N >DL/N Total	Min	Max	Median	Mean	SD	SE
Aluminum	8 / 8	0.58	32	1.0	4.9	11	3.9
Antimony	7 / 8	<0.0020	0.0068	0.0035	0.0036	0.0016	0.00058
Arsenic	8 / 8	0.52	1.7	0.97	1.0	0.35	0.12
Barium	4 / 8	<0.010	0.087	<0.010	0.019	0.030	0.010
Beryllium	0 / 8	<0.0020	<0.0020	<0.0020	<0.0020	-	-
Bismuth	0 / 8	<0.0013	<0.0013	<0.0013	<0.0013	-	-
Boron	0 / 8	<0.20	<0.20	<0.20	<0.20	-	-
Cadmium	8 / 8	0.0025	0.023	0.0054	0.0071	0.0065	0.0023
Calcium	8 / 8	75	250	97	130	76	27
Cesium	-	-	-	-	-	-	-
Chromium	1 / 8	<0.025	<0.025	<0.025	<0.025	-	-
Cobalt	8 / 8	0.0039	0.0070	0.0057	0.0055	0.0011	0.00037
Copper	8 / 8	0.23	0.96	0.44	0.49	0.25	0.089
Iron	8 / 8	2.4	33	5.4	8.4	10	3.5
Lead	8 / 8	0.0017	0.024	0.0042	0.0075	0.0076	0.0027
Lithium	-	-	-	-	-	-	-
Magnesium	8 / 8	260	340	310	310	27	9.5
Manganese	8 / 8	0.068	0.13	0.10	0.10	0.018	0.0062
Mercury	8 / 8	0.034	0.14	0.051	0.061	0.035	0.012
Molybdenum	1 / 8	<0.0080	<0.0080	<0.0080	<0.0080	-	-
Nickel	6 / 8	<0.010	0.075	0.049	0.040	0.026	0.0090
Phosphorus	8 / 8	2700	3400	3100	3100	210	74
Potassium	8 / 8	3900	5000	4600	4600	370	130
Rubidium	-	-	-	-	-	-	-
Selenium	8 / 8	0.30	0.48	0.40	0.40	0.071	0.025
Silver	0 / 8	<0.0013	<0.0013	<0.0013	<0.0013	-	-
Sodium	8 / 8	310	460	400	390	53	19
Strontium	8 / 8	0.13	0.37	0.15	0.20	0.091	0.032
Tellurium	-	-	-	-	-	-	-
Thallium	8 / 8	0.0015	0.0048	0.0022	0.0026	0.0011	0.00039
Tin	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-
Titanium	8 / 8	0.36	0.51	0.41	0.42	0.055	0.019
Uranium	0 / 8	<0.00040	<0.00040	<0.00040	<0.00040	-	-
Vanadium	0 / 8	<0.020	<0.020	<0.020	<0.020	-	-
Zinc	8 / 8	4.0	6.9	5.4	5.4	1.2	0.41
Zirconium	-	-	-	-	-	-	-

mg/kg = milligram per kilogram wet weight; > = greater than; < = less than; DL = detection limit; n = sample size; min = minimum; max = maximum; SD = standard deviation; SE = standard error; - = not applicable.

Table 7B-12: Supporting Information for Spatial Analysis of Chemicals of Potential Concern in Fourhorn Sculpin and *Hiatella arctica* Tissue Samples Collected from the Milne Port Area and Reference Area, 2024

Parameter	Test	Sample Size		*n* Outliers	MSE	Coefficient of Determination (R^2)		Interaction *P*-value	Covariate *P*-value	Levene's Test	Shapiro-Wilk Test	Area *P*-value	Least Squares Means		Magnitude of Effect (%)	Power Analysis[a]	
		Milne Port	Reference			Full Model	Reduced Model						Milne Port	Reference		Minimum Detectable Difference[b]	Sensitivity[c]
Fourhorn Sculpin																	
Aluminum	ANOVA	8	8	0	0.185	0.071	-	-	-	0.594	0.896	0.317	1.408	1.19	-	0.766	59%
Iron	$ANOVA_{rank}$	8	8	0	24.2	0.001	-	-	-	0.840	0.651	0.921	7.17[d]	6.47[d]	-	7.6	111%
Magnesium	ANOVA	8	8	0	1,605	0.010	-	-	-	0.232	0.096	0.714	236	244	-	71.2	30%
Mercury	$ANCOVA_{log}$[e]	8	8	0	0.0224	0.581	0.569	0.570	**0.001**	0.106	0.591	0.909	-0.810	-0.819	-	3.00 / 5.56	46% / 85%
Selenium	ANOVA[f]	8	8	0	0.0121	0.093	-	-	0.524	0.290	0.325	0.250	0.546	0.612	-	0.196	34%
Hiatella arctica																	
Aluminum	ANOVA	8	5	1	1,002	0.449	-	-	-	0.840	0.466	**0.012**	55	109	-49%	86	105%
Iron	ANOVA	8	5	1	2,931	0.206	-	-	-	0.680	0.195	0.120	137	189	-	147	90%
Magnesium	ANOVA	8	6	0	23,639	0.203	-	-	-	0.524	0.874	0.106	896	1041	-	418	43%
Mercury	ANOVA	8	6	0	0.000092	0.200	-	-	-	0.877	0.299	0.109	0.0413	0.0324	-	0.0261	71%
Selenium	ANOVA	8	5	1	0.038	0.346	-	-	-	0.380	0.724	**0.035**	1.61	1.87	-14%	0.527	30%

Note: Significant differences indicated in **bold**. The reference area for Fourhorn Sculpin is Koluktoo Bay, while the reference area for *Hiatella arctica* is Tugaat River Estuary.

(a) Power Analysis values presented on measurement scale. Log_{10}-transformed models include values for differences below and above the grand mean.

(b) Minimum Detectable Difference expressed as difference from the overall mean.

(c) Sensitivity is the minimum detectable difference expressed as a percent change in the overall mean.

(d) Medians used for rank ANOVA.

(e) Length was included as a covariate for ANCOVA.

(f) Length was not significantly related to selenium concentrations; therefore, ANOVA was used.

n = sample size; MSE = mean squared error; P-value = probability value; ANOVA = analysis of variance; ANCOVA = analysis of covariance; log = log_{10}-transformed data; rank = rank-transformed data; - = not calculated or not applicable.

Table 7B-13: Supporting Information for Trend Analysis of Chemicals of Potential Concern in Arctic Char, Fourhorn Sculpin and Hiatella arctica Tissue Samples Collected from the Milne Port Area from 2018 to 2024.

Parameter	Statistical Test	*n* Outliers	Sample Size						Assumptions		Coefficient of Determination (R^2)	MSE	Trend *P*-value	Least Squares Means							Year Trend *P*-value							Year Trend Slope Estimate							Trend Direction						
			2018	2019	2020	2021	2022	2024	Breusch-Pagan	Shapiro-Wilk				2018	2019	2020	2021	2022	2024	2024	2018	2019	2020	2021	2022	2024	2024	2018	2019	2020	2021	2022	2024	2024	2018	2019	2020	2021	2022	2024	2024
Arctic Char																																									
Aluminum	GAM_{rank}	0	26	47	8	8	8	8	0.334	**0.004**[a]	0.400	639	**<0.001**	30	67	65	30	57	58	102	**<0.001**	**0.006**	**<0.001**	0.872	**0.078**	**0.093**	**0.002**	44	23	-33	-2	18	15	58	↑	↑	↓	-	↑	↑	↑
Iron	GAM_{rank}	0	26	47	8	8	8	8	0.221	**0.002**[a]	0.075	984	**0.014**	50	53	56	61	66	72	78	0.480	0.255	**0.060**	**0.021**	**0.027**	**0.078**	0.163	3	3	4	5	6	6	6	-	-	↑	↑	↑	↑	-
Magnesium	GAM	1	26	47	7	8	8	8	0.021	0.085	0.178	497	**<0.001**	285	301	311	314	311	306	302	**0.001**	**<0.001**	**0.071**	0.916	0.225	0.300	0.626	17.8	13.6	5.8	-0.4	-4.5	-4.6	-3.3	↑	↑	↑	-	-	-	-
Length-Adjusted Mercury	GAM_{log10}	0	26	47	7	8	8	8	**0.008**[b]	0.709	<0.001	0.033	0.977	-1.35	-1.35	-1.35	-1.35	-1.35	-1.35	-1.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Length-Adjusted Selenium	GAM_{log10}	1	26	46	8	8	8	8	0.830	0.085	0.279	0.0037	**<0.001**	-0.473	-0.400	-0.478	-0.401	-0.374	-0.421	-0.409	**<0.001**	**0.100**	0.435	**<0.001**	0.191	0.222	0.469	0.125	-0.032	-0.015	0.089	-0.031	-0.026	0.031	↑	↓	-	↑	-	-	-
Fourhorn Sculpin																																									
Aluminum	GAM_{log10}	0	-	30	8	8	8	8	0.270	0.797	0.601	0.067	**<0.001**	-	0.329	-0.469	-0.319	-0.152	-0.268	0.114	-	**<0.001**	**<0.001**	**0.002**	0.509	0.347	**0.005**	-	-1.04	-0.30	0.33	-0.067	0.085	0.53	-	↓	↓	↑	-	-	↑
Iron	GAM_{log10}	0	-	30	8	8	8	8	0.496	0.656	0.127	0.026	**0.039**	-	0.940	0.860	0.819	0.819	0.858	0.913	-	**0.040**	**0.015**	0.442	0.433	0.126	0.252	-	-0.088	-0.064	-0.020	0.021	0.050	0.058	-	↓	↓	-	-	-	-
Magnesium	GAM_{log10}	0	-	30	8	8	8	8	0.798	0.525	0.182	0.0031	**0.003**	-	2.45	2.45	2.44	2.43	2.41	2.38	-	0.783	0.937	0.228	**0.021**	**0.008**	**0.044**	-	0.004	-0.001	-0.009	-0.019	-0.028	-0.031	-	-	-	-	↓	↓	↓
Length-Adjusted Mercury	GAM_{log10}	0	-	30	8	8	8	8	0.458	0.192	0.272	0.012	**0.002**	-	-0.837	-0.848	-0.738	-0.659	-0.846	-0.805	-	0.570	0.192	**0.001**	**0.039**	**0.004**	0.134	-	-0.038	0.046	0.15	-0.091	-0.12	0.12	-	-	-	↑	↓	↓	-
Length-Adjusted Selenium	GAM_{log10}	0	-	30	8	8	8	8	0.298	0.701	0.238	0.0031	**0.003**	-	-0.292	-0.341	-0.325	-0.279	-0.246	-0.265	-	**0.016**	0.166	**0.025**	**0.007**	0.697	0.311	-	-0.065	-0.018	0.039	0.048	0.006	-0.032	-	↓	-	↑	↑	-	-
Hiatella arctica																																									
Aluminum	GAM_{rank}	0	24	78	8	8	8	7	8	0.111	0.200	0.370	1044	**<0.001**	44	88	78	76	67	43	6	**<0.001**	**0.096**	0.132	0.892	0.121	**0.001**	**0.040**	59	14	-12	-1	-17	-32	-40	↑	↑	-	-	-	↓	↓
Iron	GAM_{rank}	0	24	78	8	8	8	7	8	0.115	0.013	0.316	1132	**<0.001**	41	83	80	80	82	77	8	**<0.001**	**0.067**	0.402	0.890	0.590	**0.001**	**<0.001**	55	17	-7	2	6	-35	-86	↑	↑	-	-	-	↓	↓
Magnesium	GAM_{log10}	0	24	79	8	8	8	8	0.166	0.570	0.506	0.022	**<0.001**	3.39	3.58	3.51	3.51	3.47	3.40	2.96	**<0.001**	0.348	0.146	0.771	0.787	**<0.001**	**<0.001**	0.257	0.041	-0.060	-0.016	-0.015	-0.244	-0.536	↑	-	-	-	-	↓	↓
Mercury	GAM_{log10}	0	24	78	8	8	8	8	0.315	0.171	0.076	0.023	**0.044**	-1.60	-1.53	-1.51	-1.51	-1.52	-1.50	-1.43	**0.046**	**0.069**	0.824	0.764	0.938	0.208	0.147	0.076	0.048	0.005	-0.008	-0.002	0.042	0.080	↑	↑	-	-	-	-	-
Selenium	GAM	0	24	80	8	8	8	8	0.706	0.804	0.146	0.057	**0.001**	1.19	1.38	1.35	1.35	1.34	1.39	1.58	**0.001**	0.193	0.446	0.989	0.984	**0.053**	**0.073**	0.256	0.070	-0.040	0.001	-0.001	0.126	0.222	↑	-	-	-	-	↑	↑

Note: Significant differences indicated in **bold**.

(a) Rank GAM proceeded despite violation of normality. See Section 7.3.4.3.

(b) Log_{10} GAM proceeded despite minor violation of homoscedasticity as residual plots indicated assumptions were not severely violated.

n = sample size; MSE = mean squared error; P-value = probability value; GAM = Gaussian additive model; log = log_{10}-transformed data; rank = rank-transformed data; - = not calculated, no data available; ↑= incrasing; ↓= decreasing.

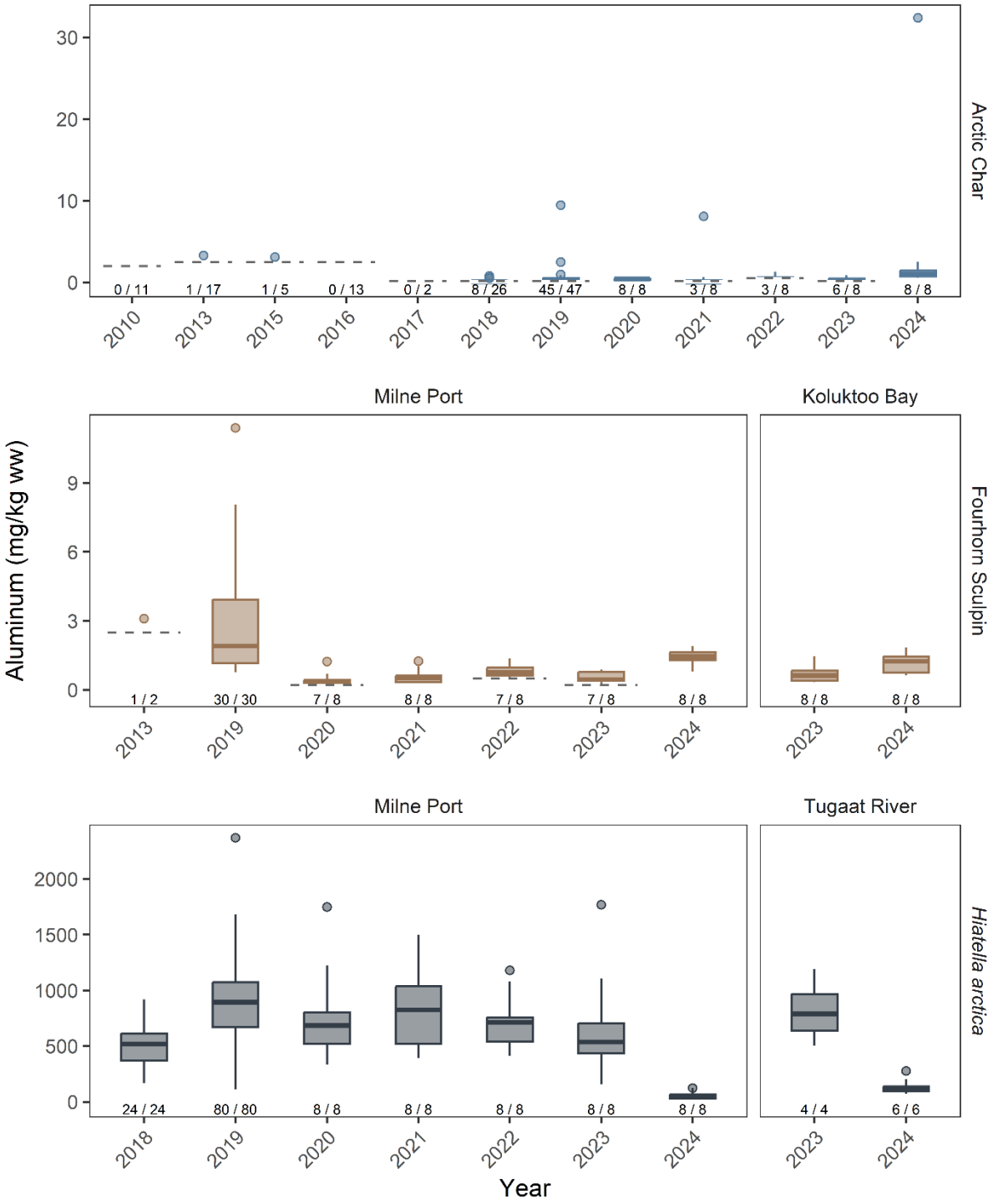
Table 7B-14 Results of Size-Adjustment of Metals Concentrations for Temporal Trend Assessment of Fish Tissue Chemistry for Arctic Char and Fourhorn Sculpin, 2024

Species	Dependent Variable	Covariate	Statistical Model	*n* Outliers	Assumptions			Coefficient of Determination (R^2)	ANOVA Table								
					Homogeneity of Variance	Shapiro-Wilk	Interaction *P*-value		Intercept			Covariate			Year		
									F-Value	df	*P*-value	F-Value	df	*P*-value	F-Value	df	*P*-value
Arctic Char	Mercury	Total Length (mm)	GLM_{log10}	1	0.508	0.069	0.831	0.227	3.1	1,104	**0.080**	4.3	1,104	**0.040**	4.45	6,104	**<0.001**
	Selenium	Total Length (mm)	GLM_{log10}	1	0.016	0.195	**<0.001**[(a)]	0.404	0.045	1,98	0.833	1.5	1,98	0.219	5.17	6,98	**<0.001**
Fourhorn Sculpin	Mercury	Total Length (mm)	GLM_{log10}	0	0.878	0.473	0.030	0.707	126.5	1,63	**<0.001**	90.2	1,63	**<0.001**	4.54	5,63	**0.001**
	Selenium	Total Length (mm)	GLM_{log10}	0	0.125	0.377	0.085	0.409	24.1	1,63	**<0.001**	13.9	1,63	**<0.001**	4.13	5,63	**0.003**

Note: **Bold** values indicate statistically significant results.
(a) The reduced model (i.e., no interaction term) was used as slopes were considered pratically parallel (Barrett et al. 2010).
n = sample size; df = degrees of freedom; mm = millimeters; GLM = general linear model; log_{10} = log_{10}-transformed dependent and covariate values.

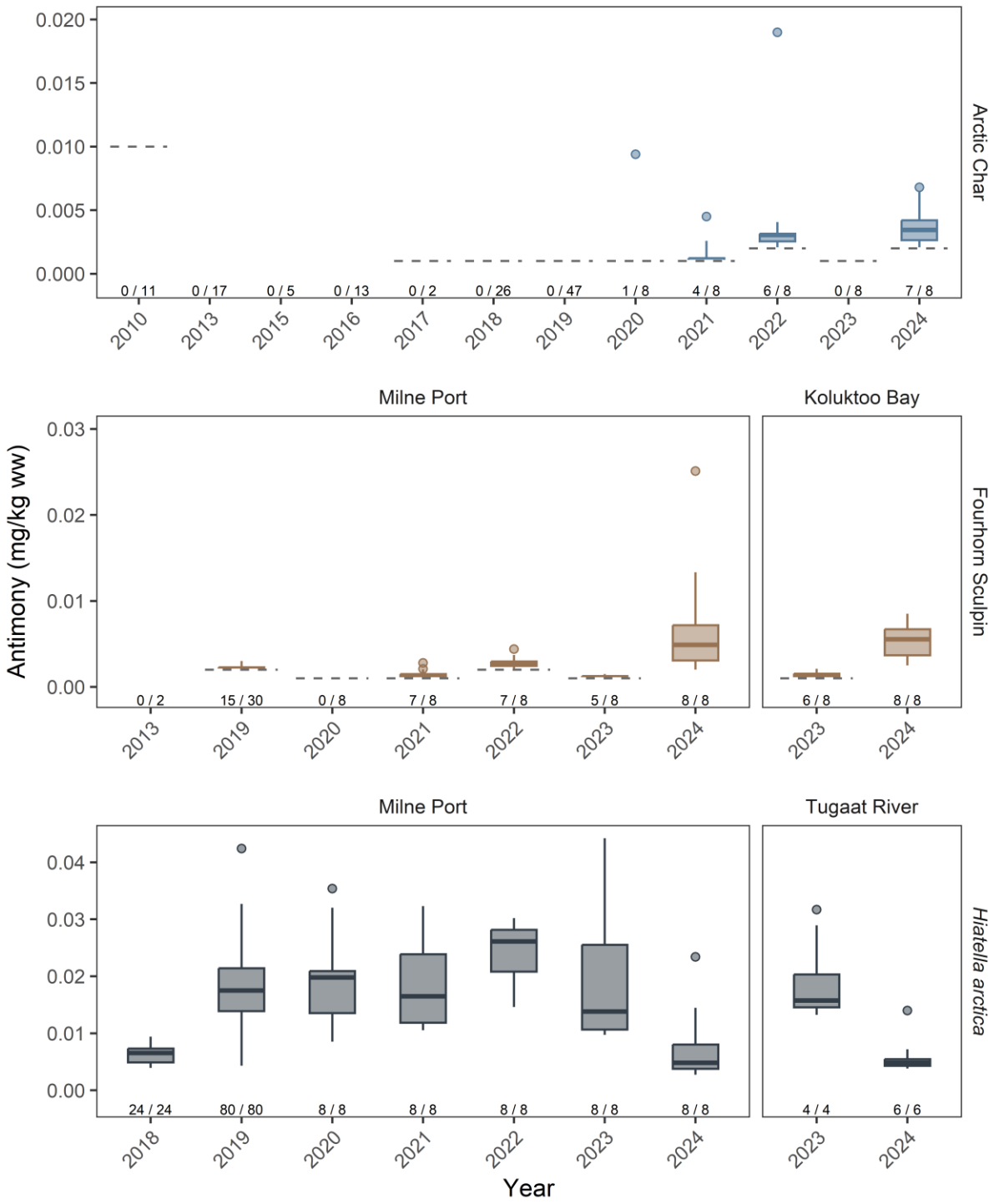
APPENDIX 7C

Fish Tissue Boxplots



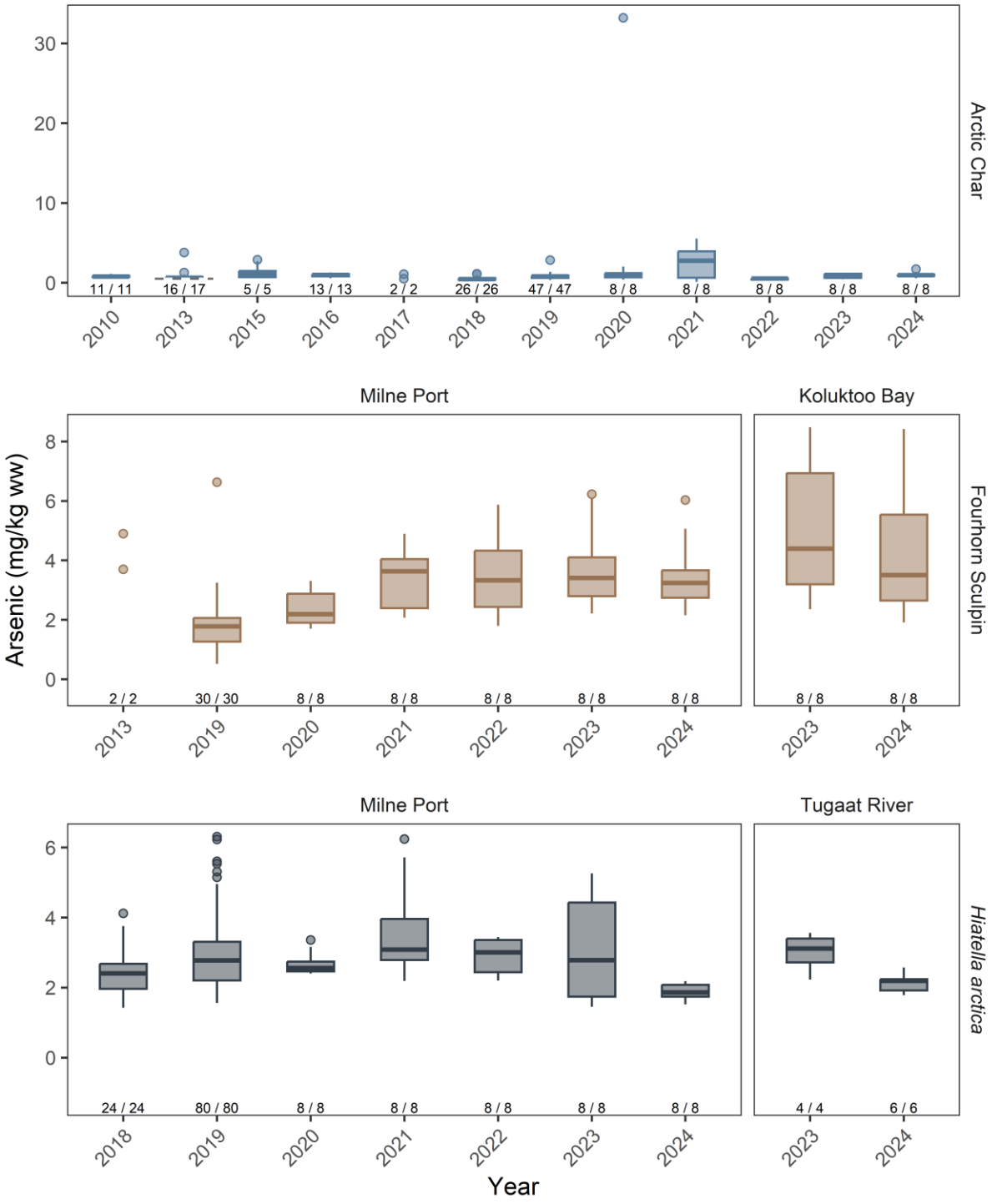
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits.

Figure 7C-1: Concentrations of Aluminum for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



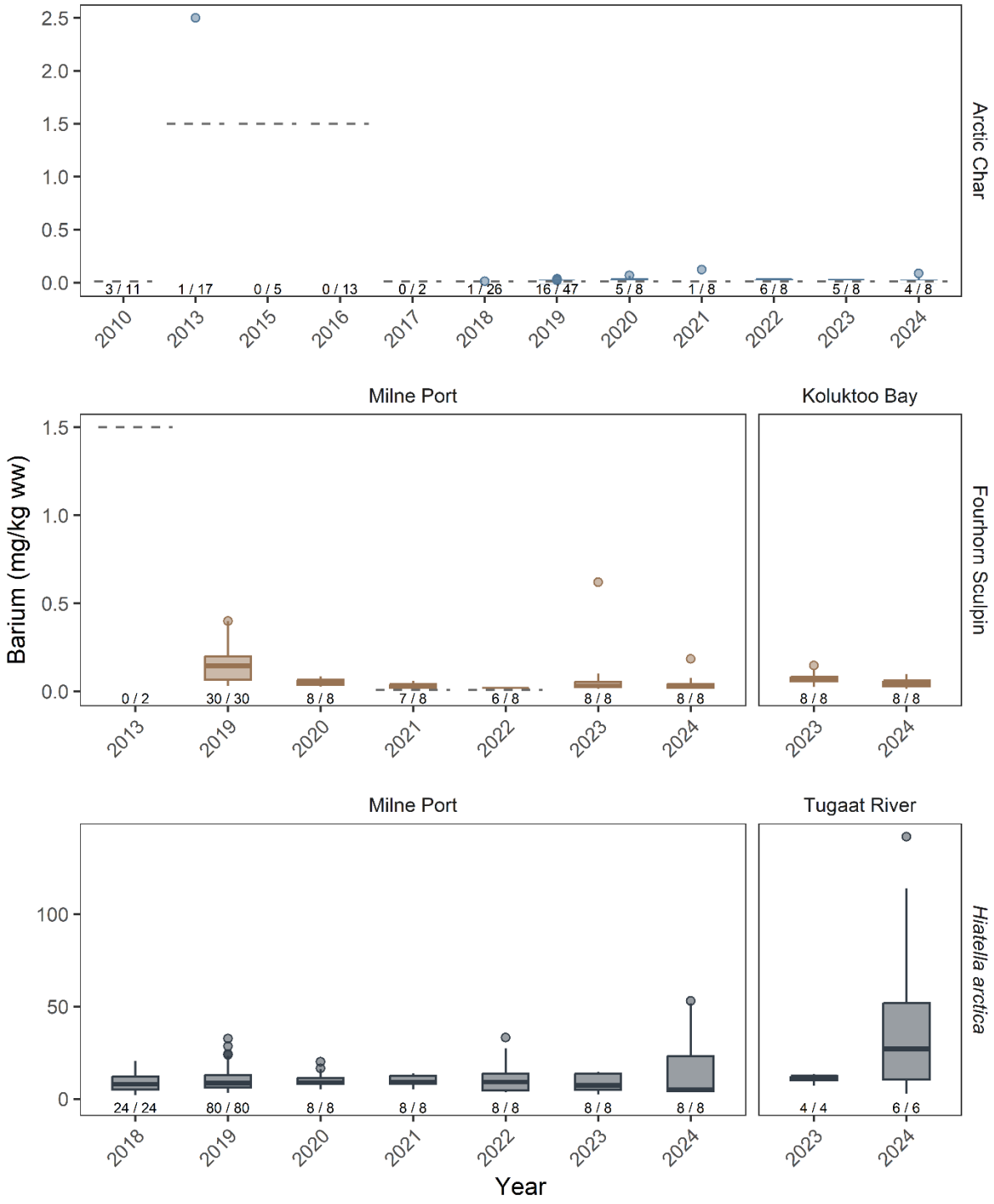
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits. Values truncated at 0.020 mg/kg ww and 0.030 mg/kg ww for Arctic Char and Fourhorn Sculpin, respectively, to improve interpretability.

Figure 7C-2: Concentrations of Antimony for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



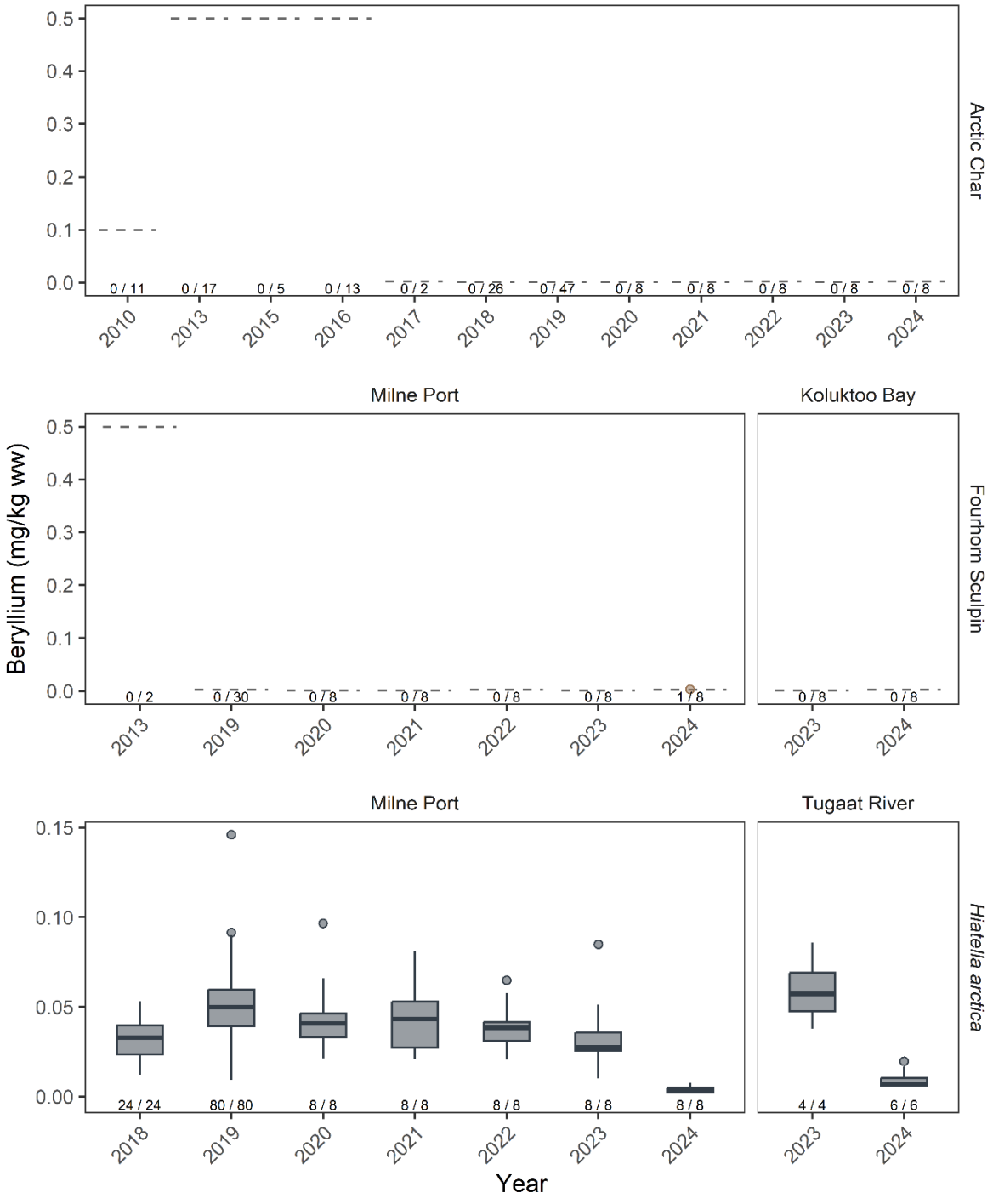
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits.

Figure 7C-3: Concentrations of Arsenic for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



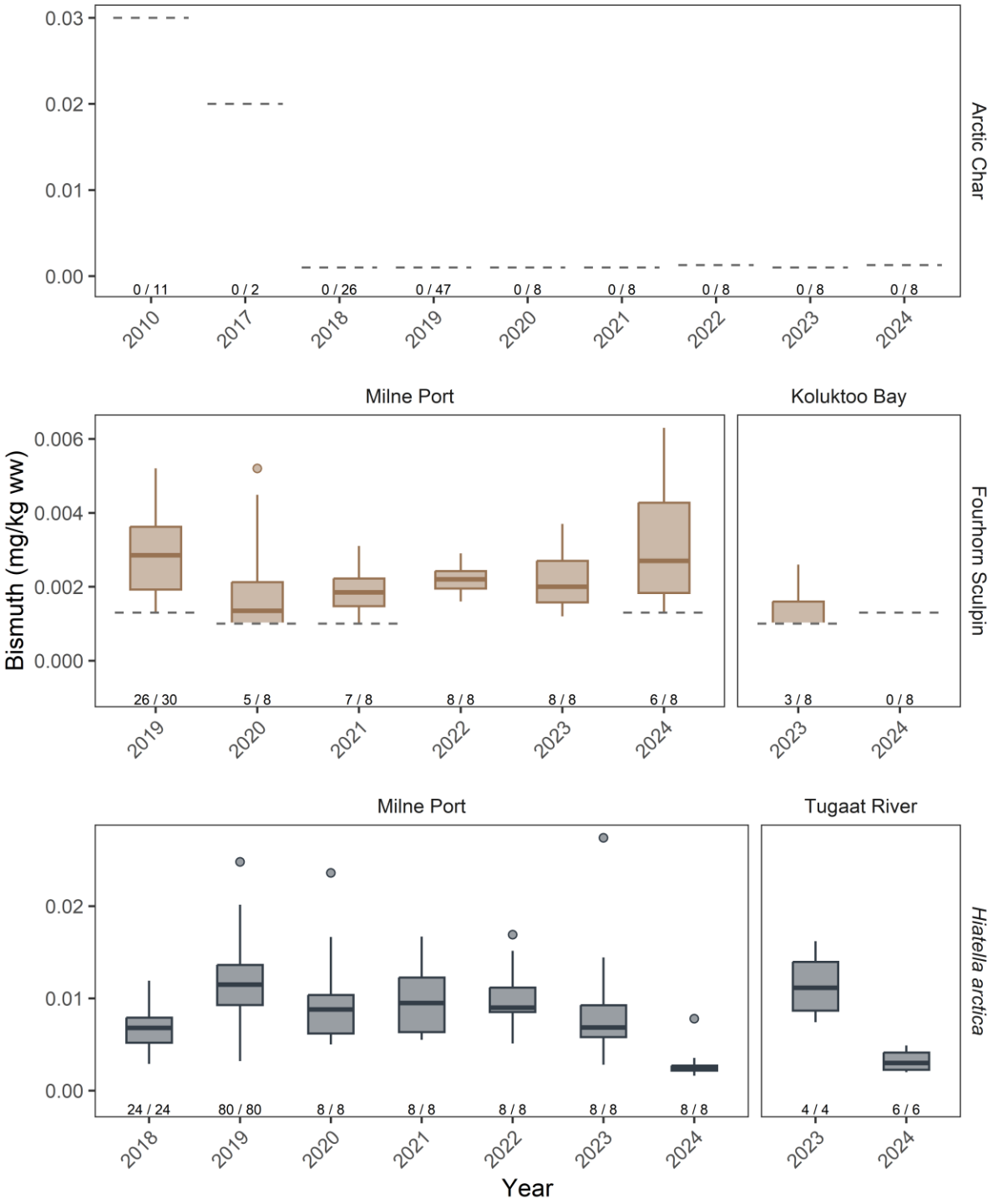
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits.

Figure 7C-4: Concentrations of Barium for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



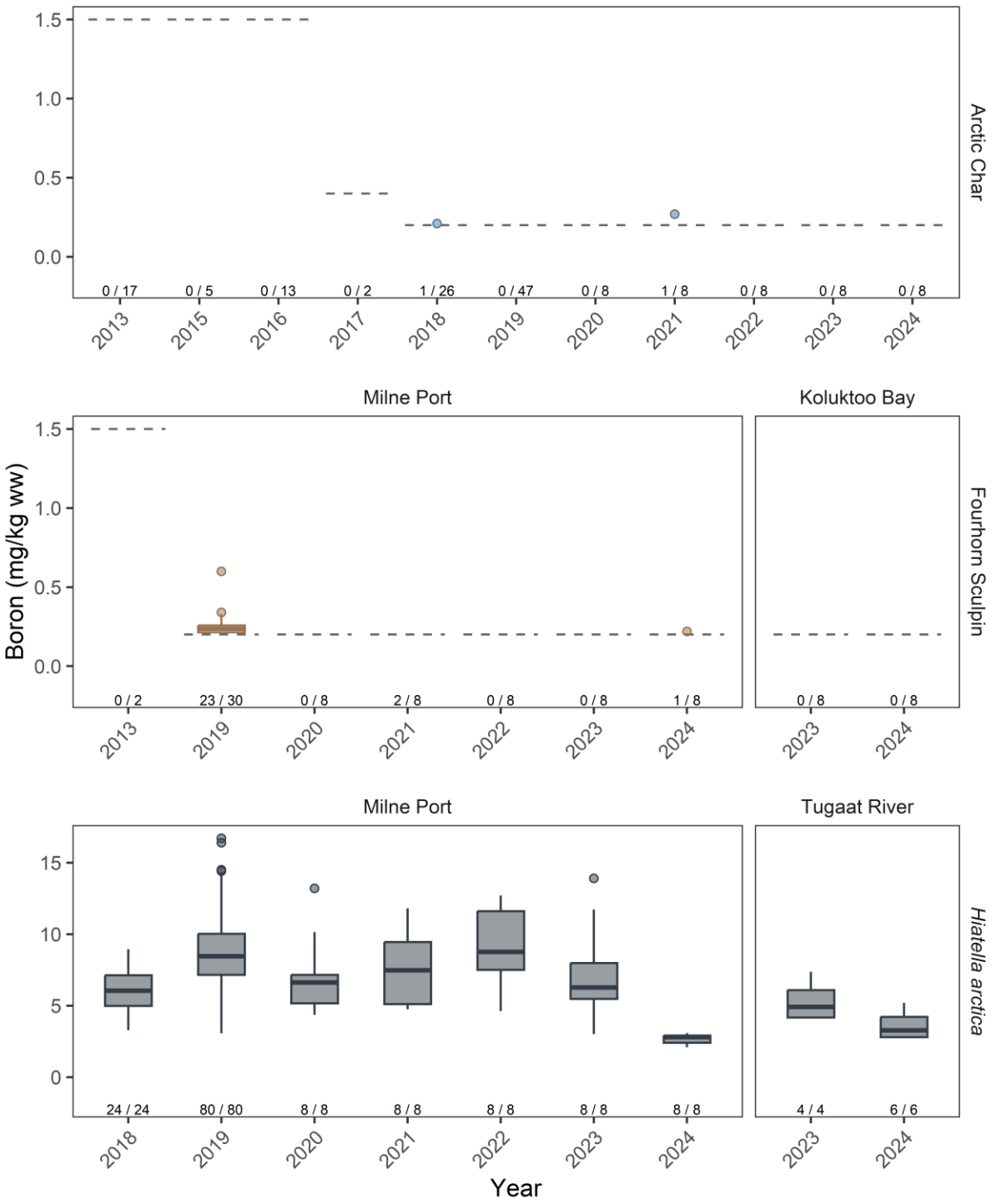
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits.

Figure 7C-5: Concentrations of Beryllium for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



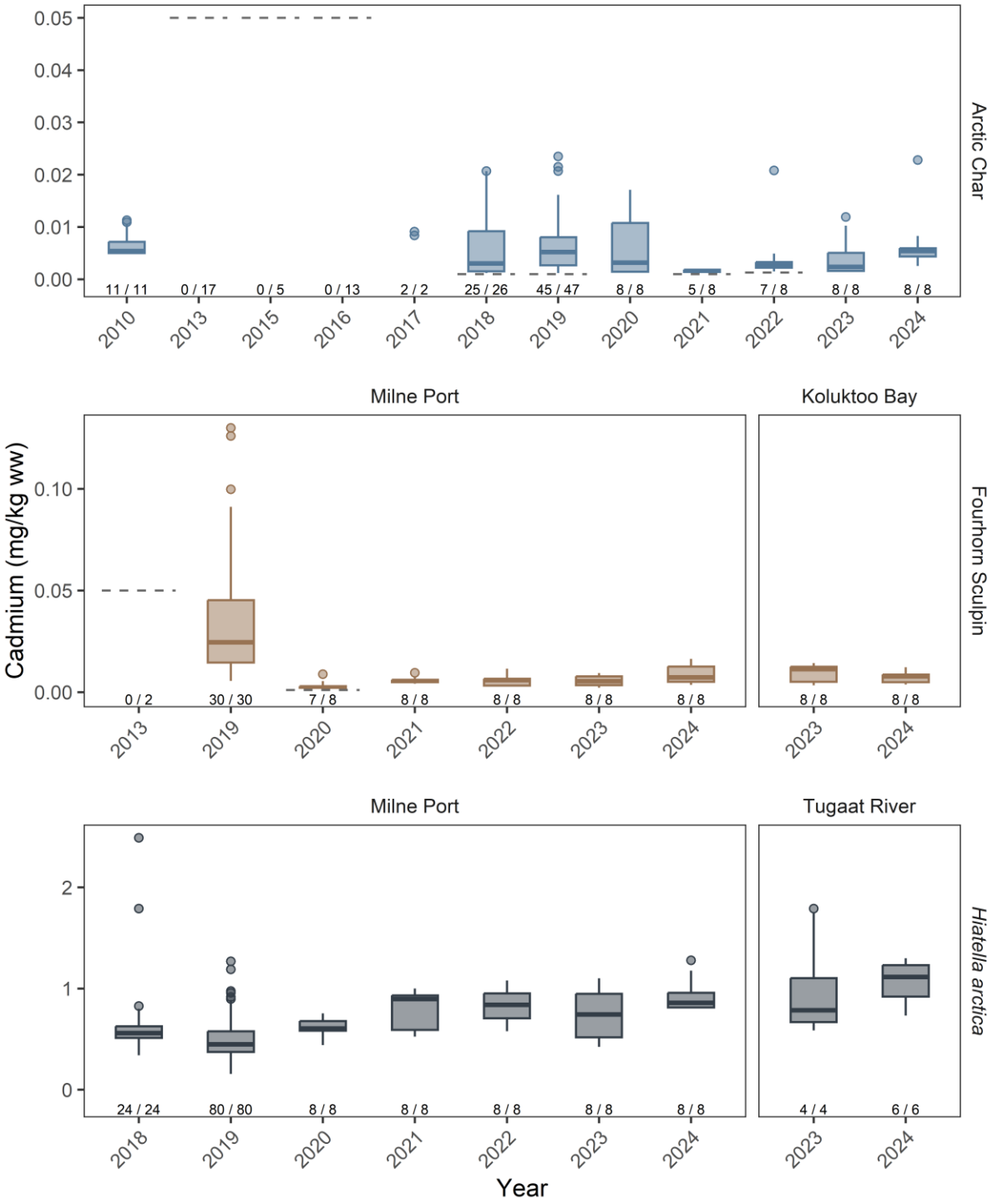
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits.

Figure 7C-6: Concentrations of Bismuth for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



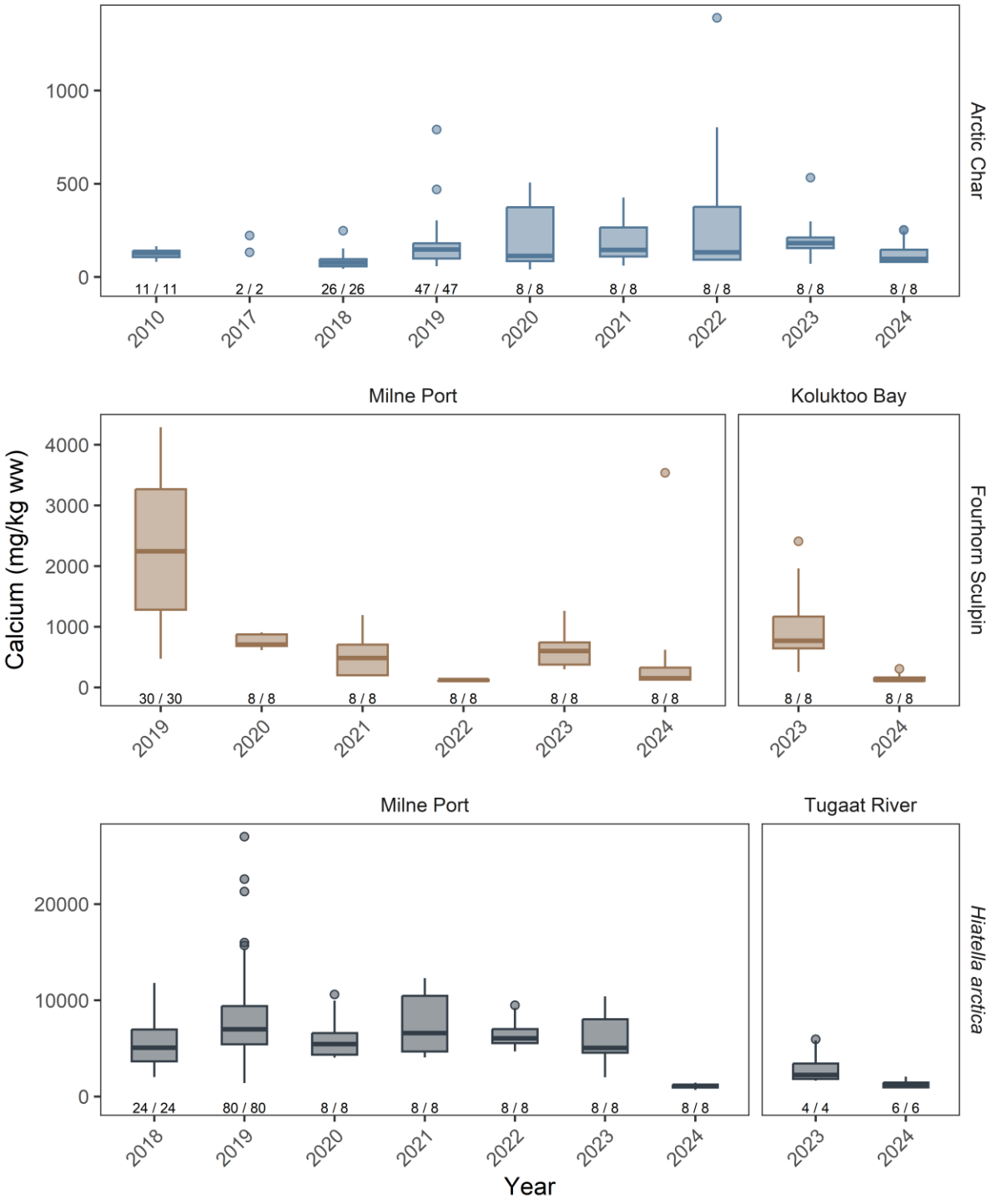
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits.

Figure 7C-7: Concentrations of Boron for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2013 to 2024



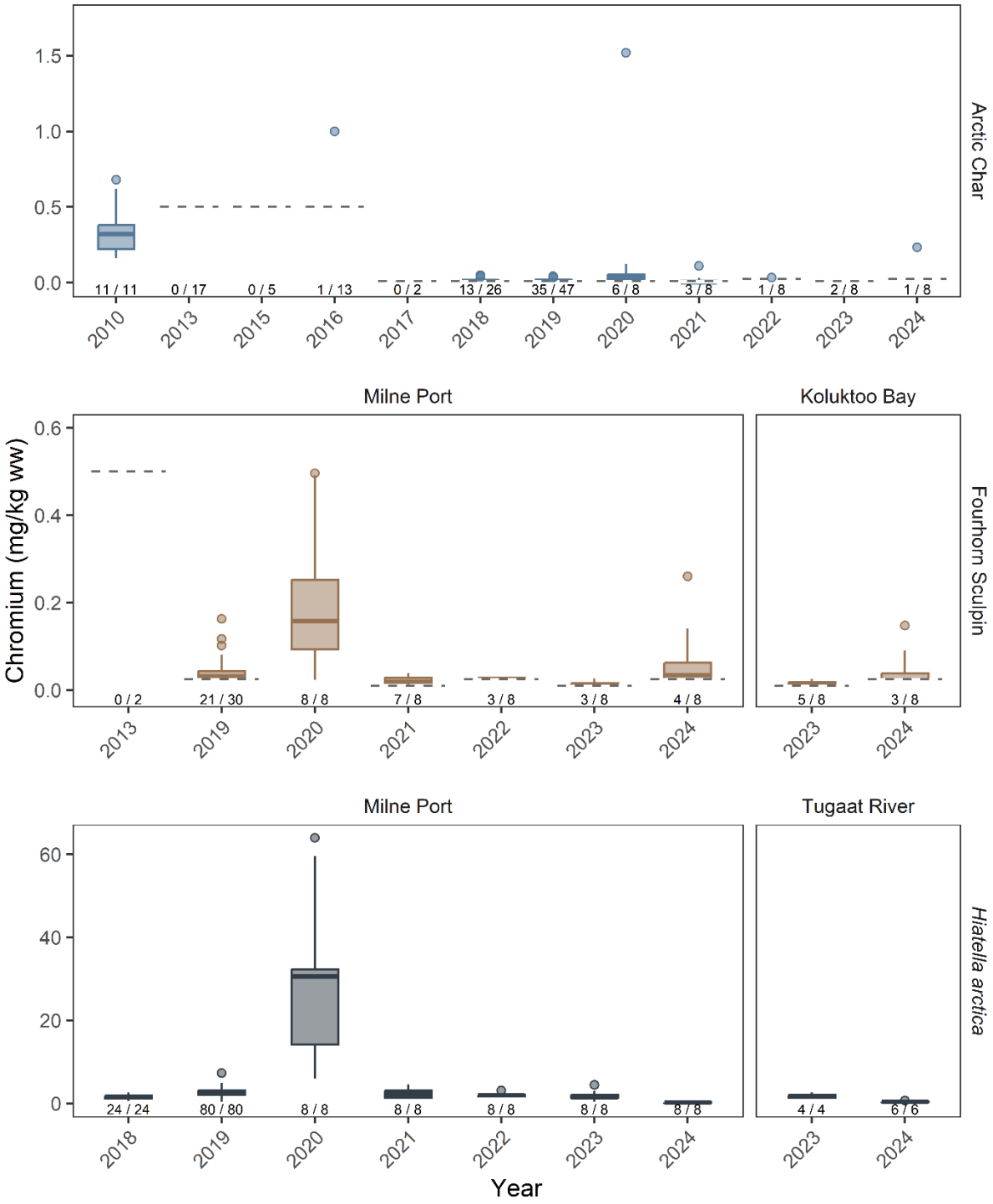
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits.

Figure 7C-8: Concentrations of Cadmium for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



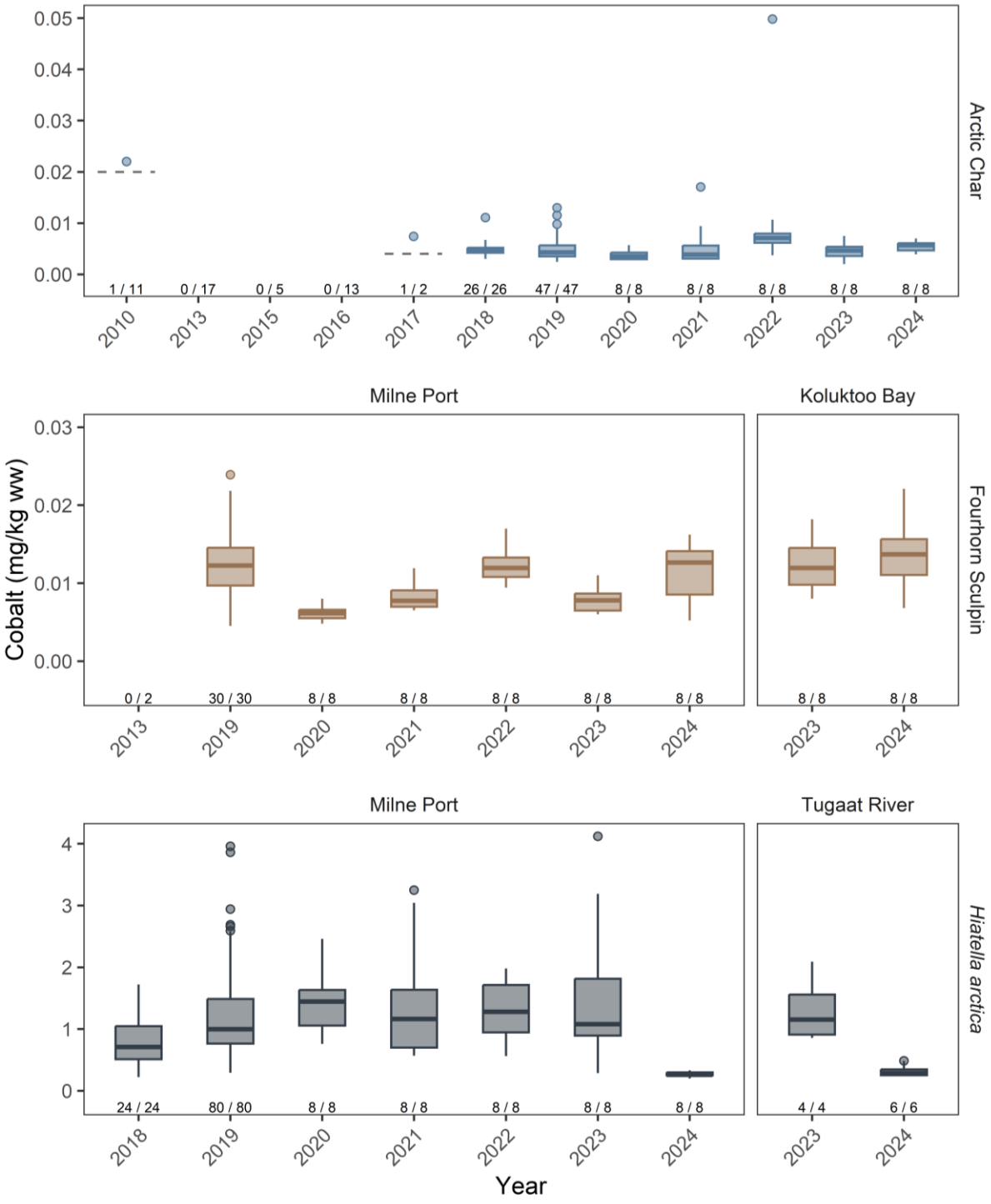
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots.

Figure 7C-9: Concentrations of Calcium for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



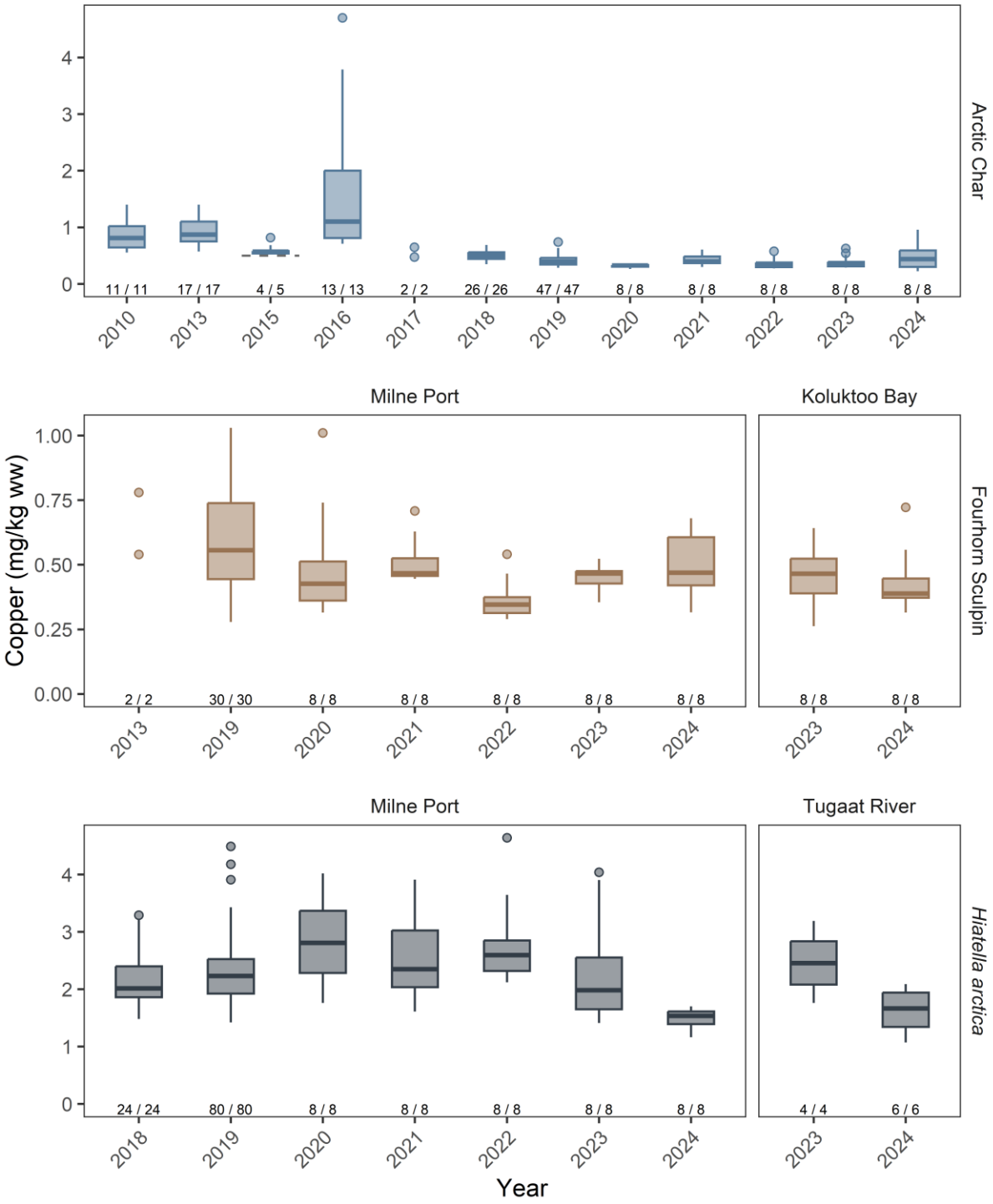
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as "n>DL/n". Values below DL are not shown in the plots. Dashed lines indicate detection limits. Values truncated at 1.75 mg/kg ww and 0.60 mg/kg ww for Arctic Char and Fourhorn Sculpin, respectively, to improve interpretability.

Figure 7C-10: Concentrations of Chromium for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



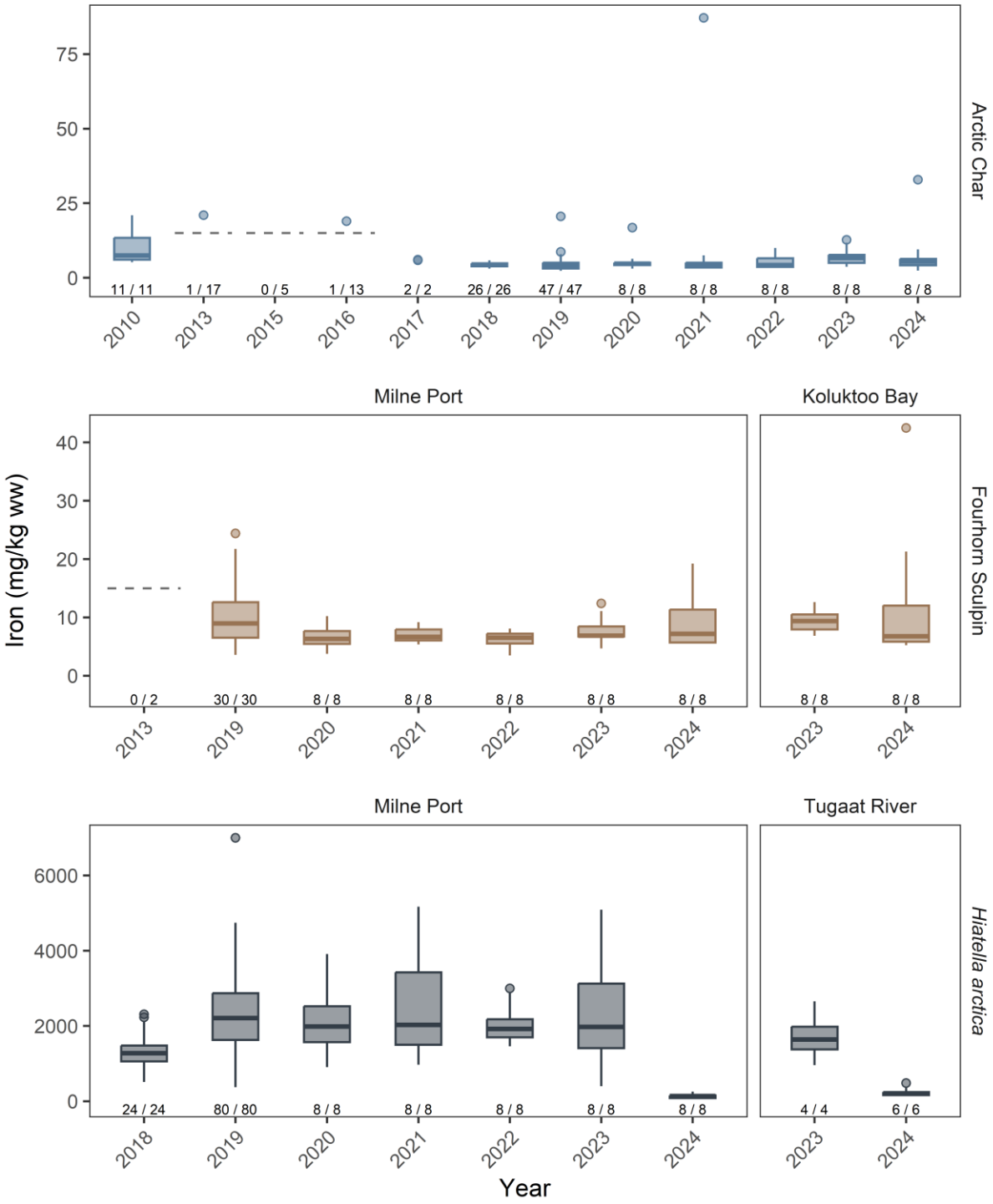
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits. Detection limit of 0.2 mg/kg for Arctic Char (2013, 2015, 2016) and Fourhorn Sculpin (2013) not shown to improve interpretability.

Figure 7C-11: Concentrations of Cobalt for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



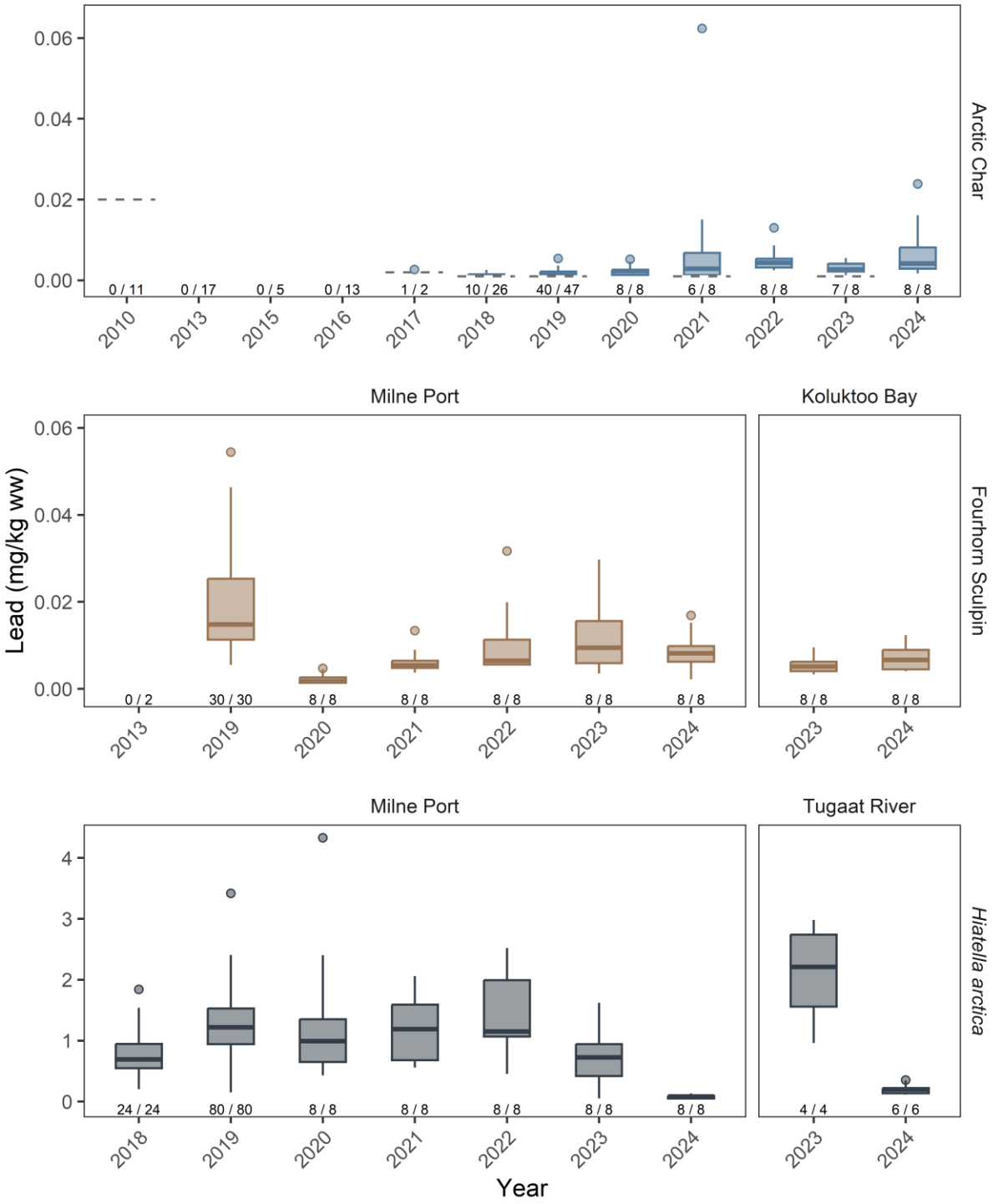
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits.

Figure 7C-12: Concentrations of Copper for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



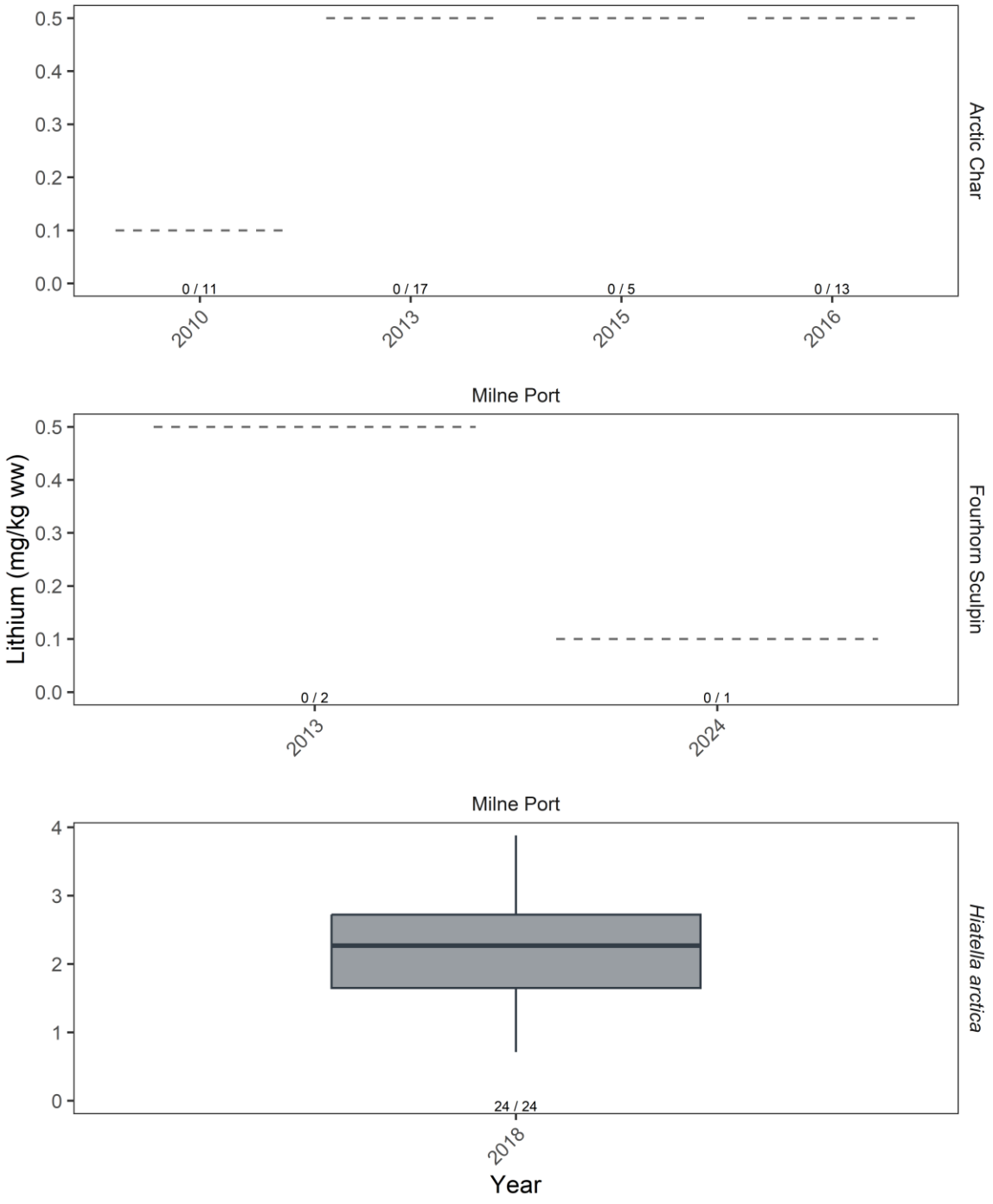
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits.

Figure 7C-13: Concentrations of Iron for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



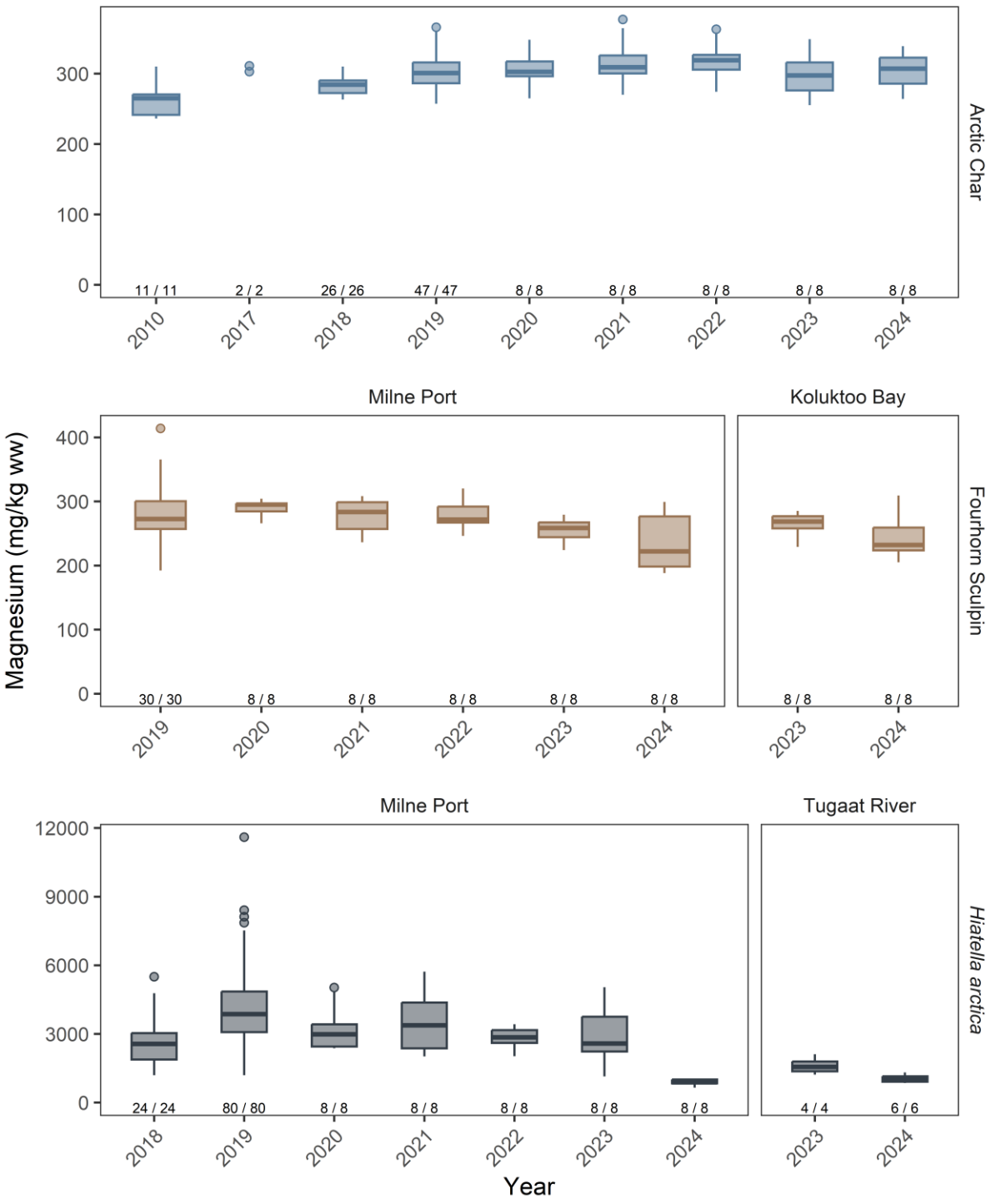
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as "n>DL/n". Values below DL are not shown in the plots. Dashed lines indicate detection limits. Values truncated at 0.065 mg/kg ww and 0.060 mg/kg ww for Arctic Char and Fourhorn Sculpin, respectively, to improve interpretability.

Figure 7C-14: Concentrations of Lead for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



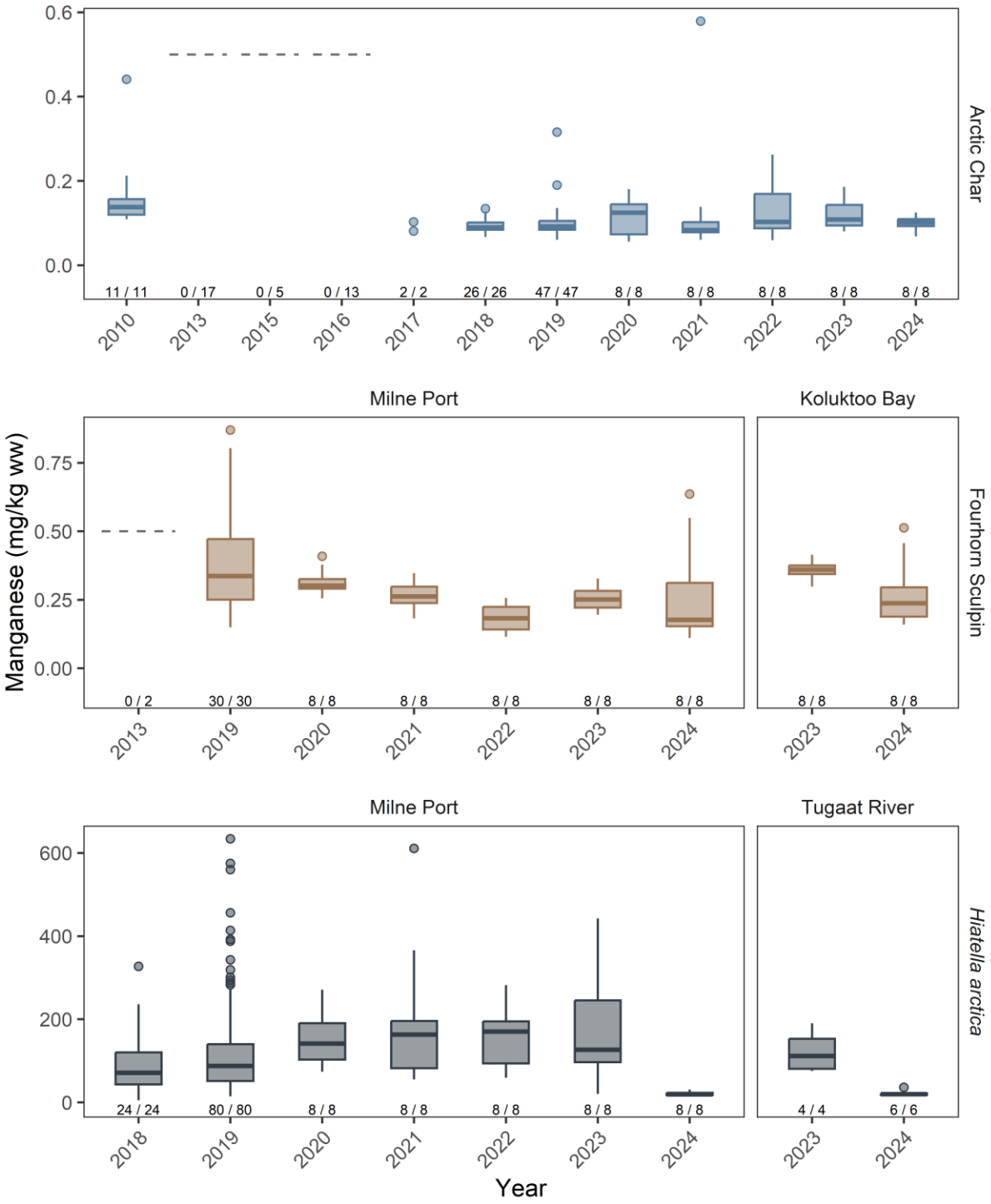
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits.

Figure 7C-15: Concentrations of Lithium for Arctic Char, Fourhorn Sculpin and Hiatella arctica Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



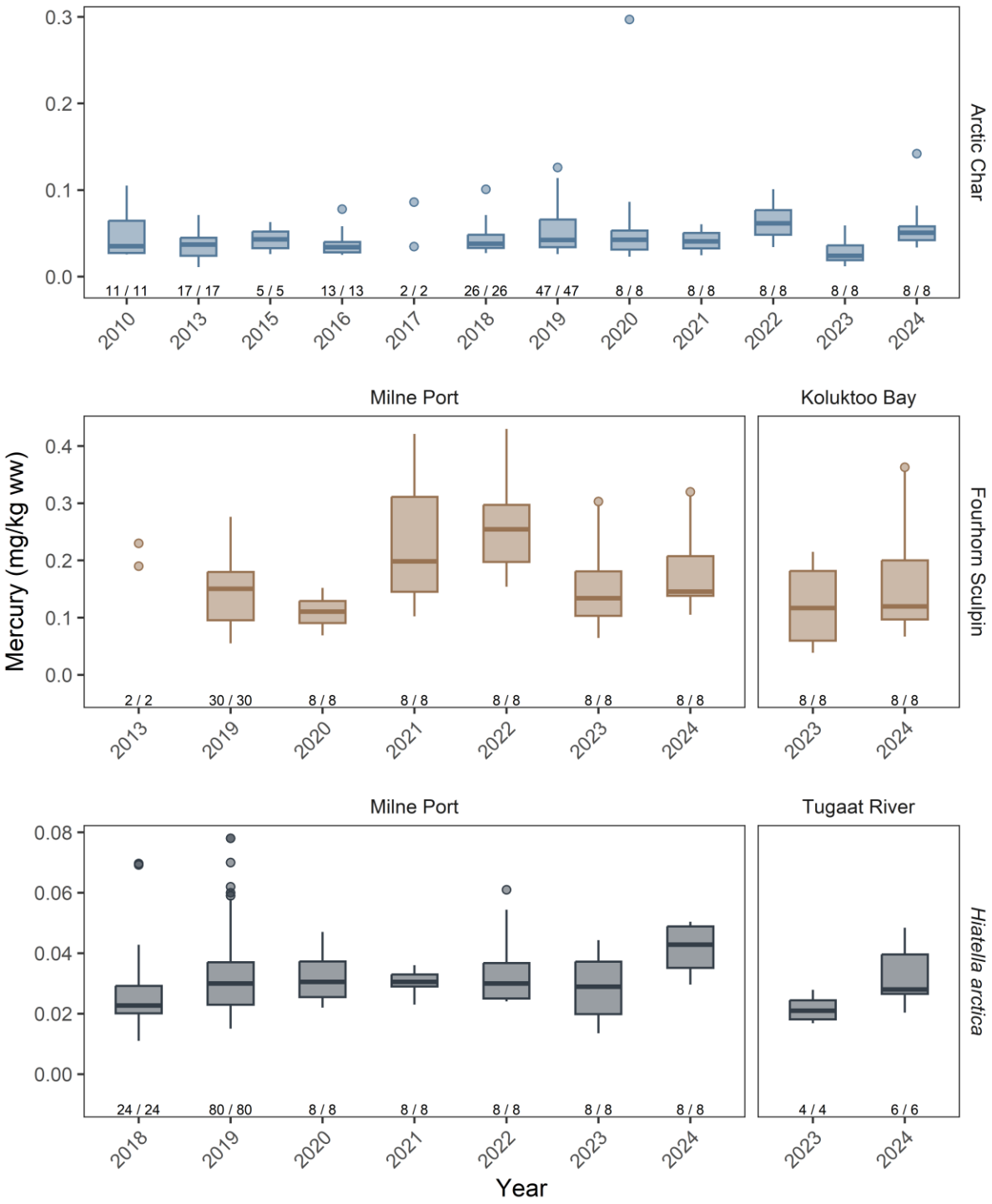
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots.

Figure 7C-16: Concentrations of Magnesium for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



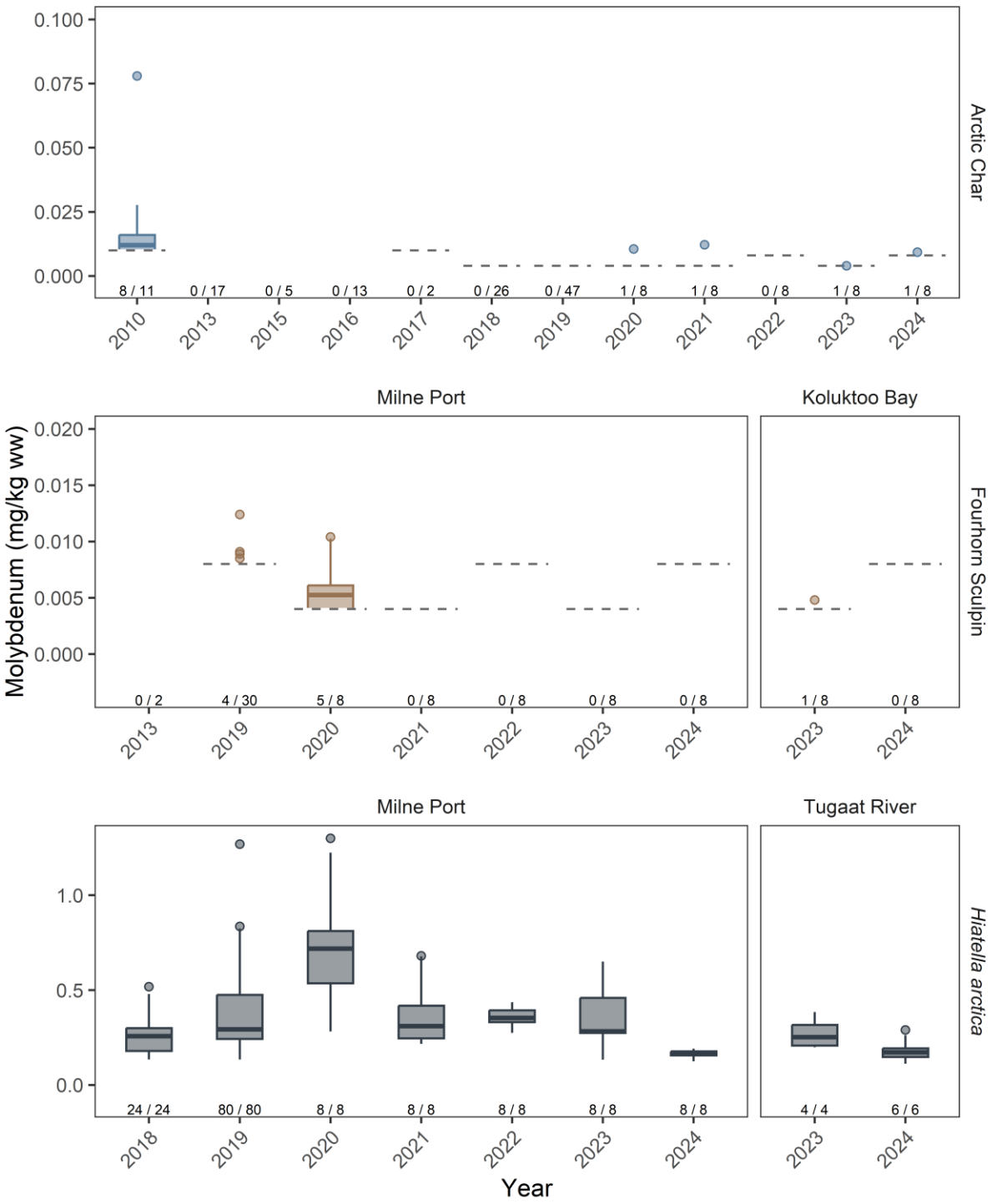
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits.

Figure 7C-17: Concentrations of Manganese for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



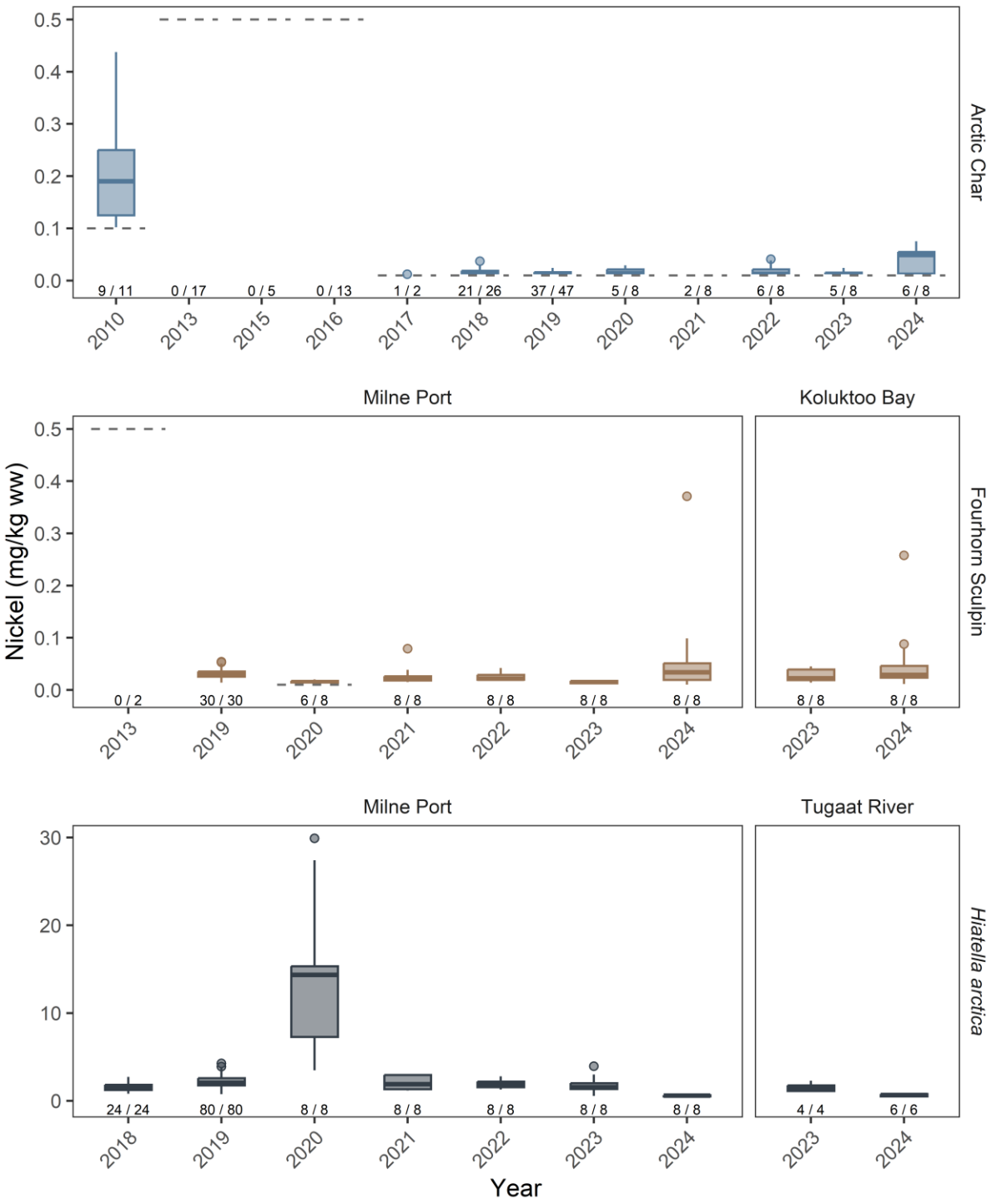
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots.

Figure 7C-18: Concentrations of Mercury for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



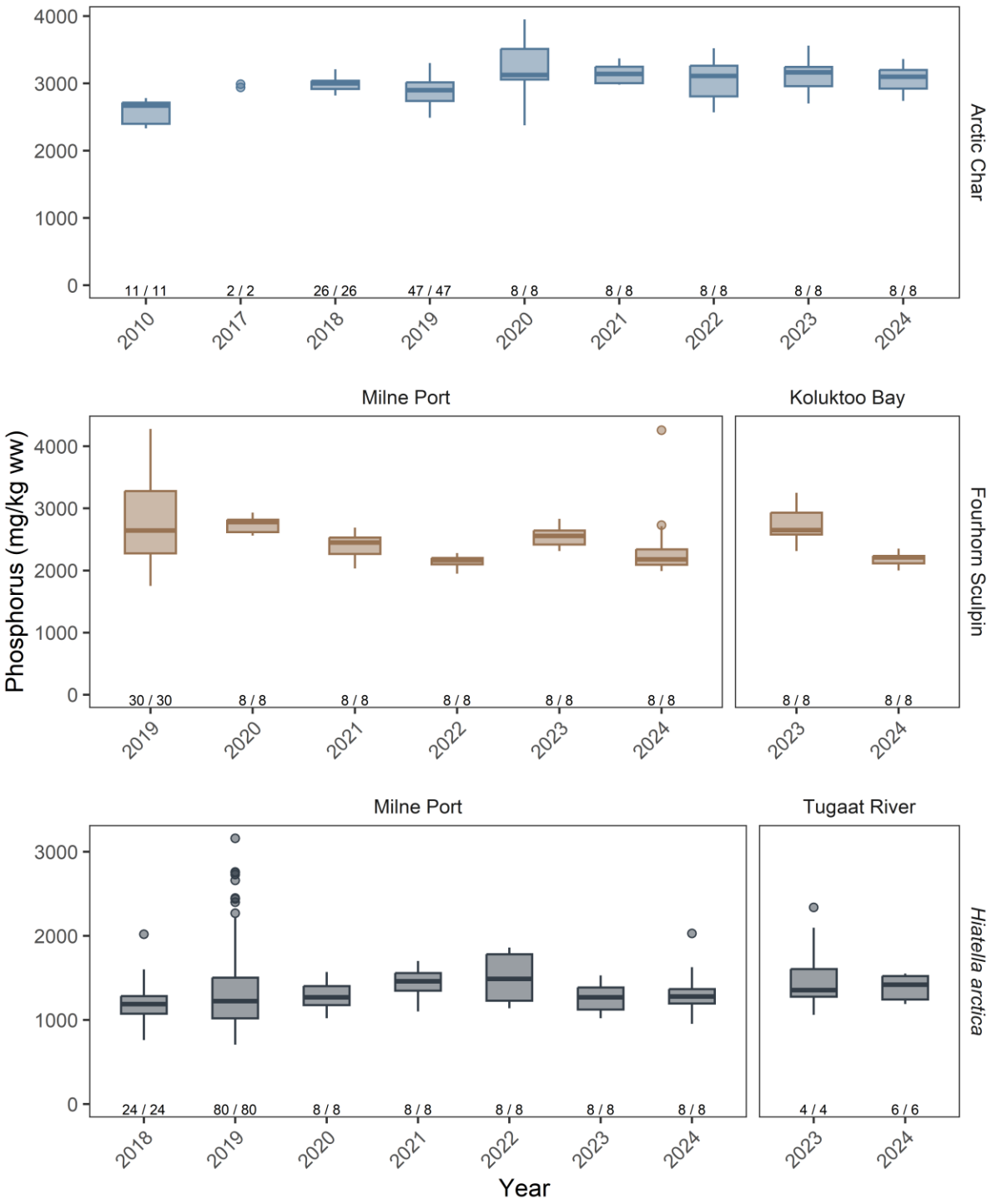
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits. Values truncated at 0.10 mg/kg ww and 0.020 mg/kg ww for Arctic Char and Fourhorn Sculpin, respectively, to improve interpretability.

Figure 7C-19: Concentrations of Molybdenum for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



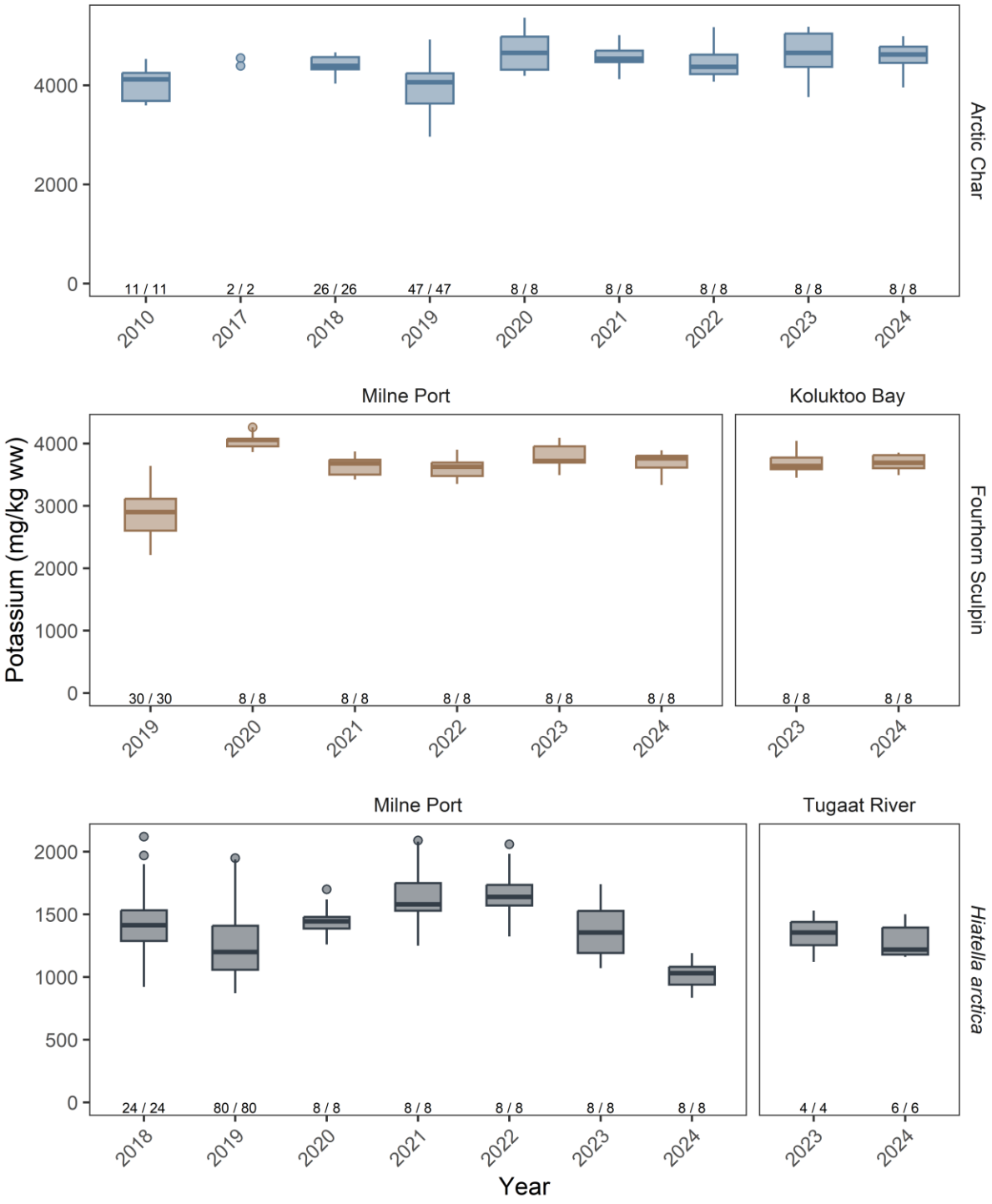
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits. Values truncated at 0.50 mg/kg ww and 0.50 mg/kg ww for Arctic Char and Fourhorn Sculpin, respectively, to improve interpretability.

Figure 7C-20: Concentrations of Nickel for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



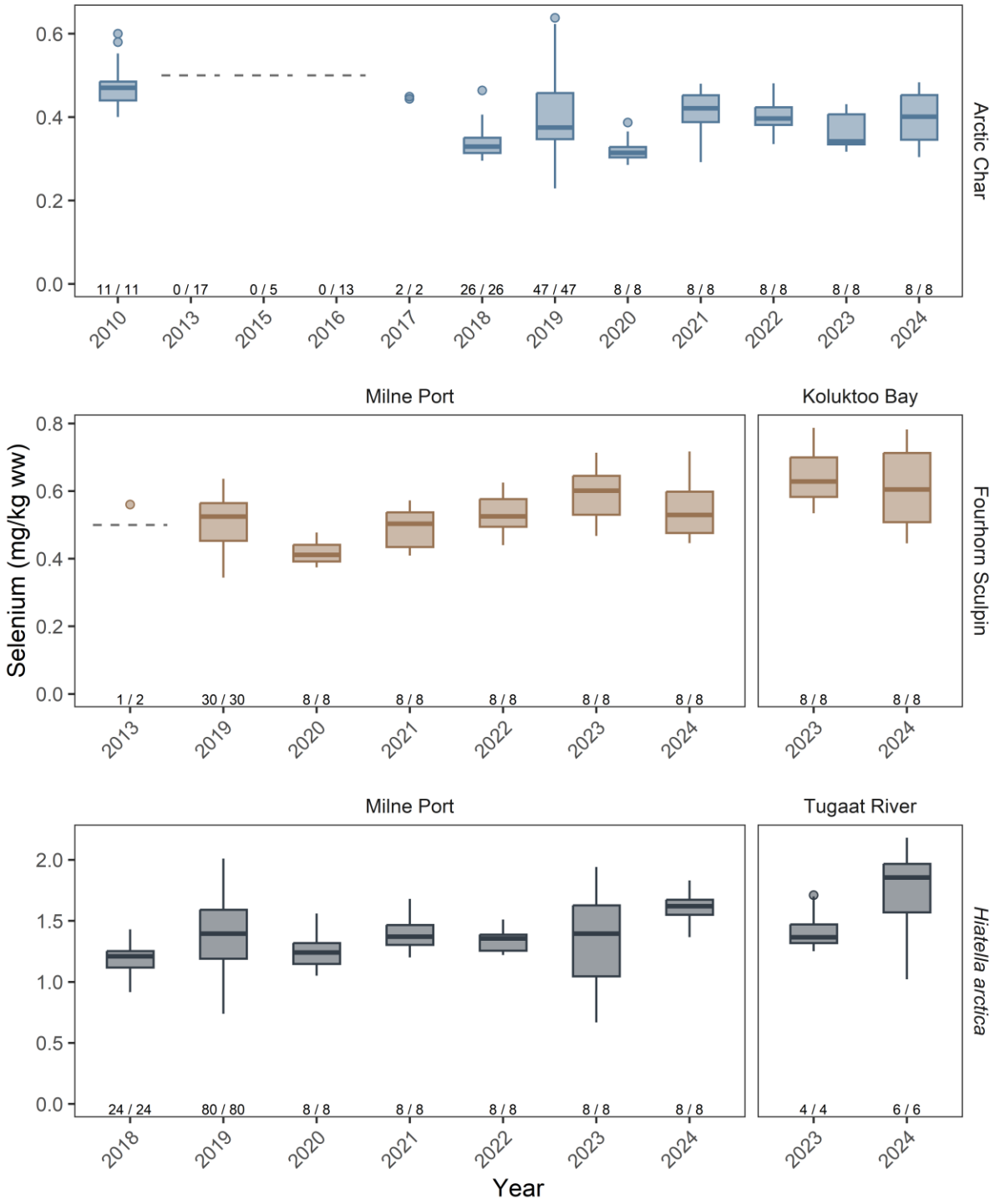
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots.

Figure 7C-21: Concentrations of Phosphorus for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



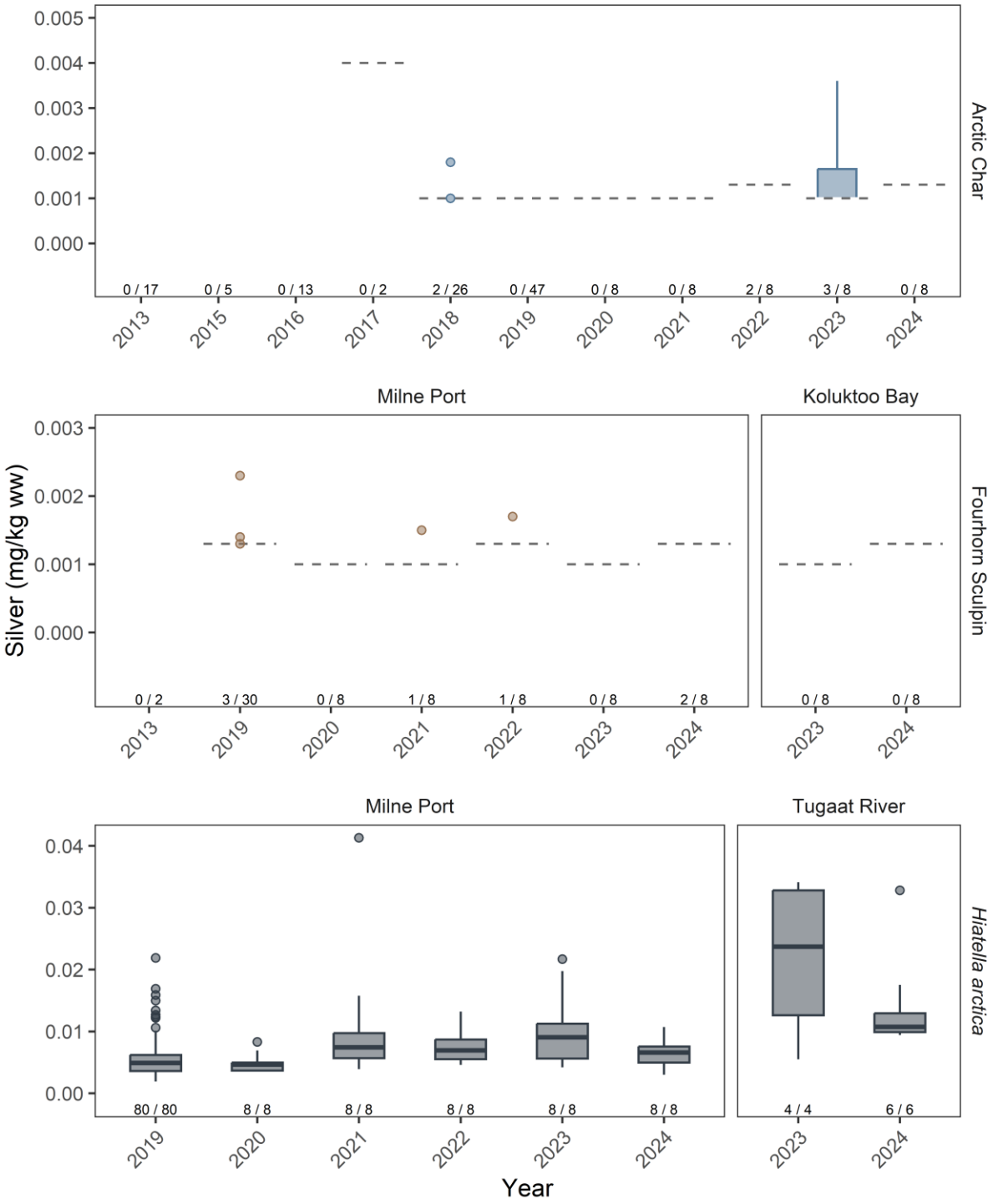
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots.

Figure 7C-22: Concentrations of Potassium for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



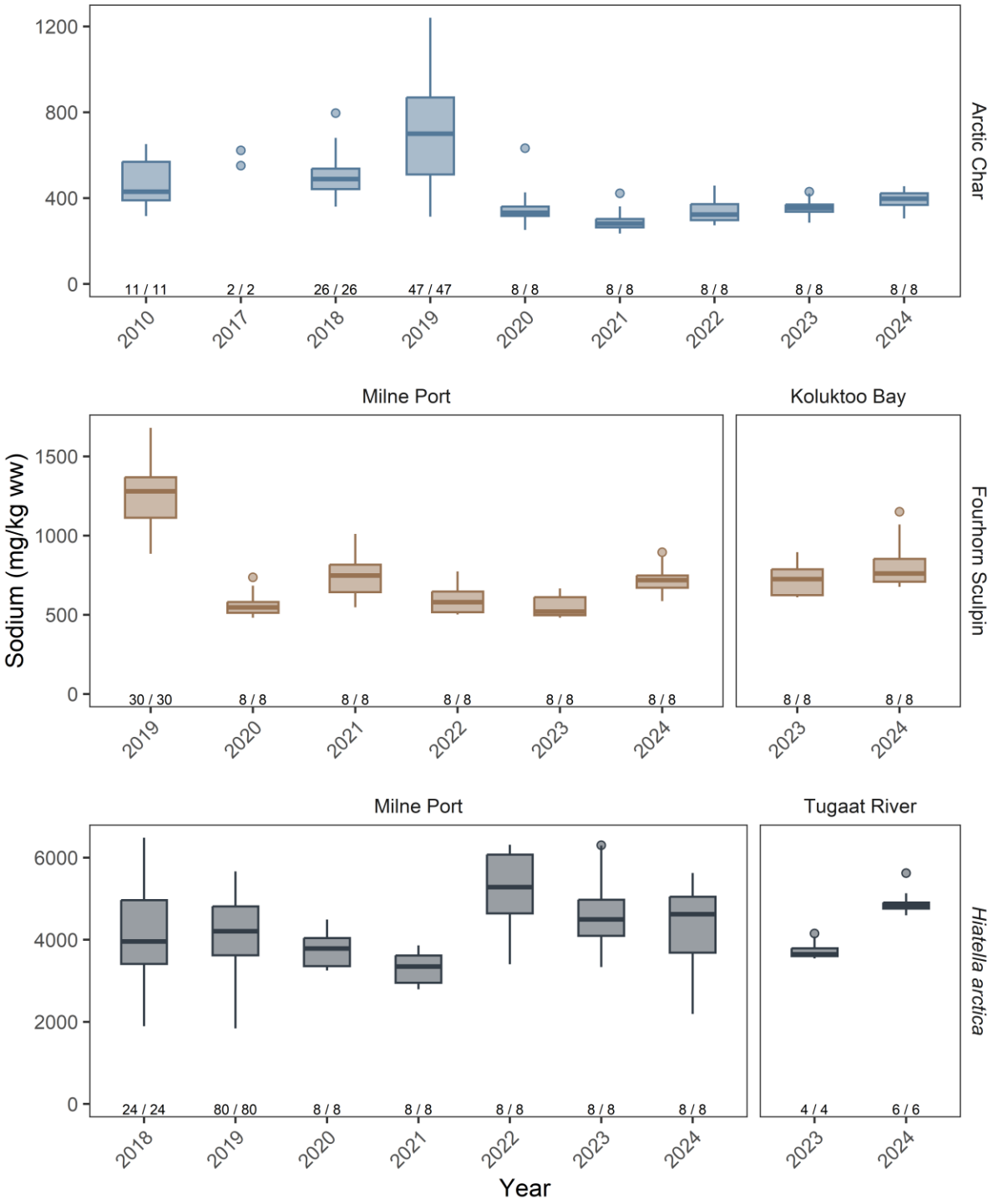
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits.

Figure 7C-23: Concentrations of Selenium for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



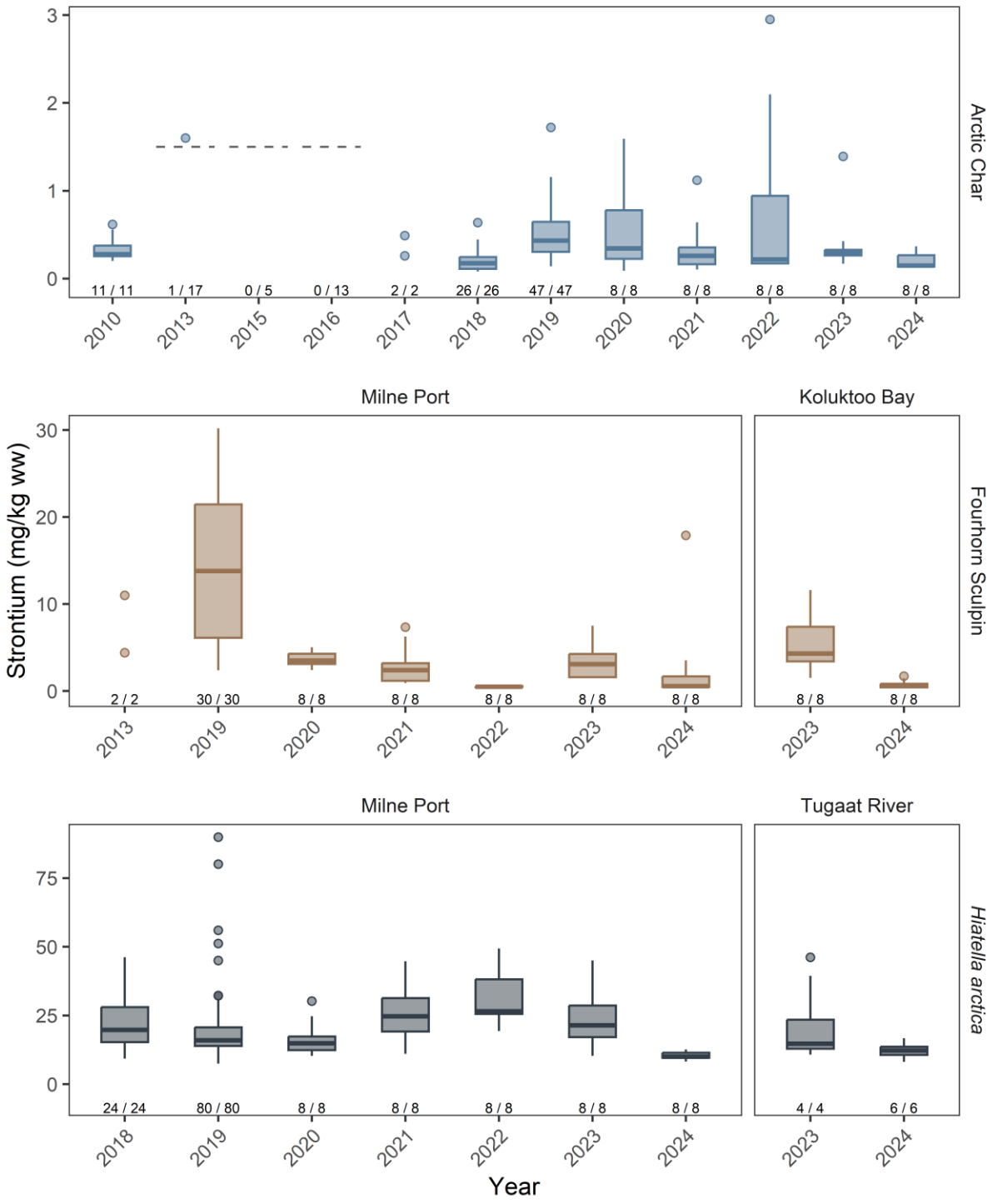
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as "n>DL/n". Values below DL are not shown in the plots. Dashed lines indicate detection limits. Values truncated at 0.0050 mg/kg ww and 0.0030 mg/kg ww for Arctic Char and Fourhorn Sculpin, respectively, to improve interpretability.

Figure 7C-24: Concentrations of Silver for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



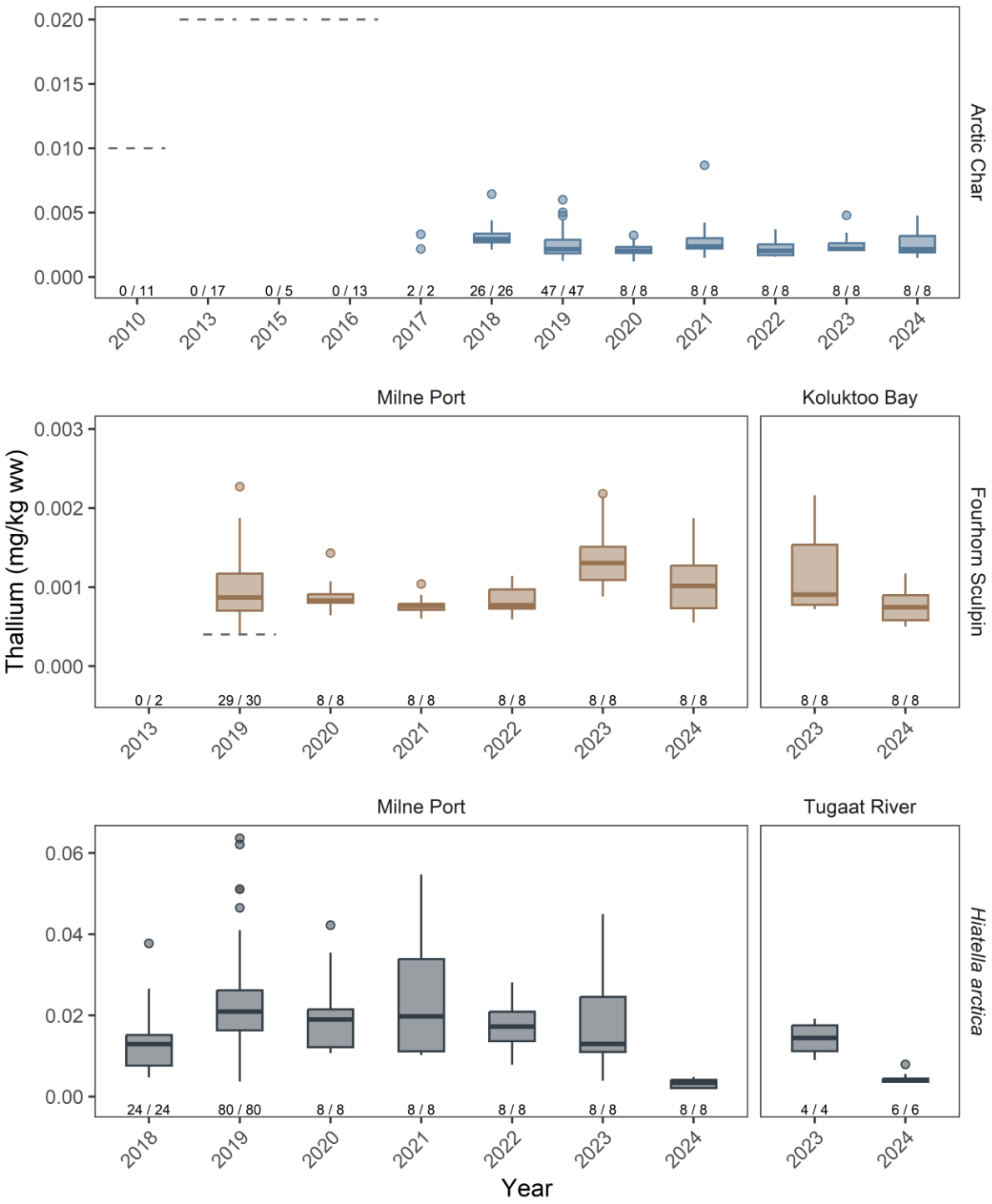
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots.

Figure 7C-25: Concentrations of Sodium for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



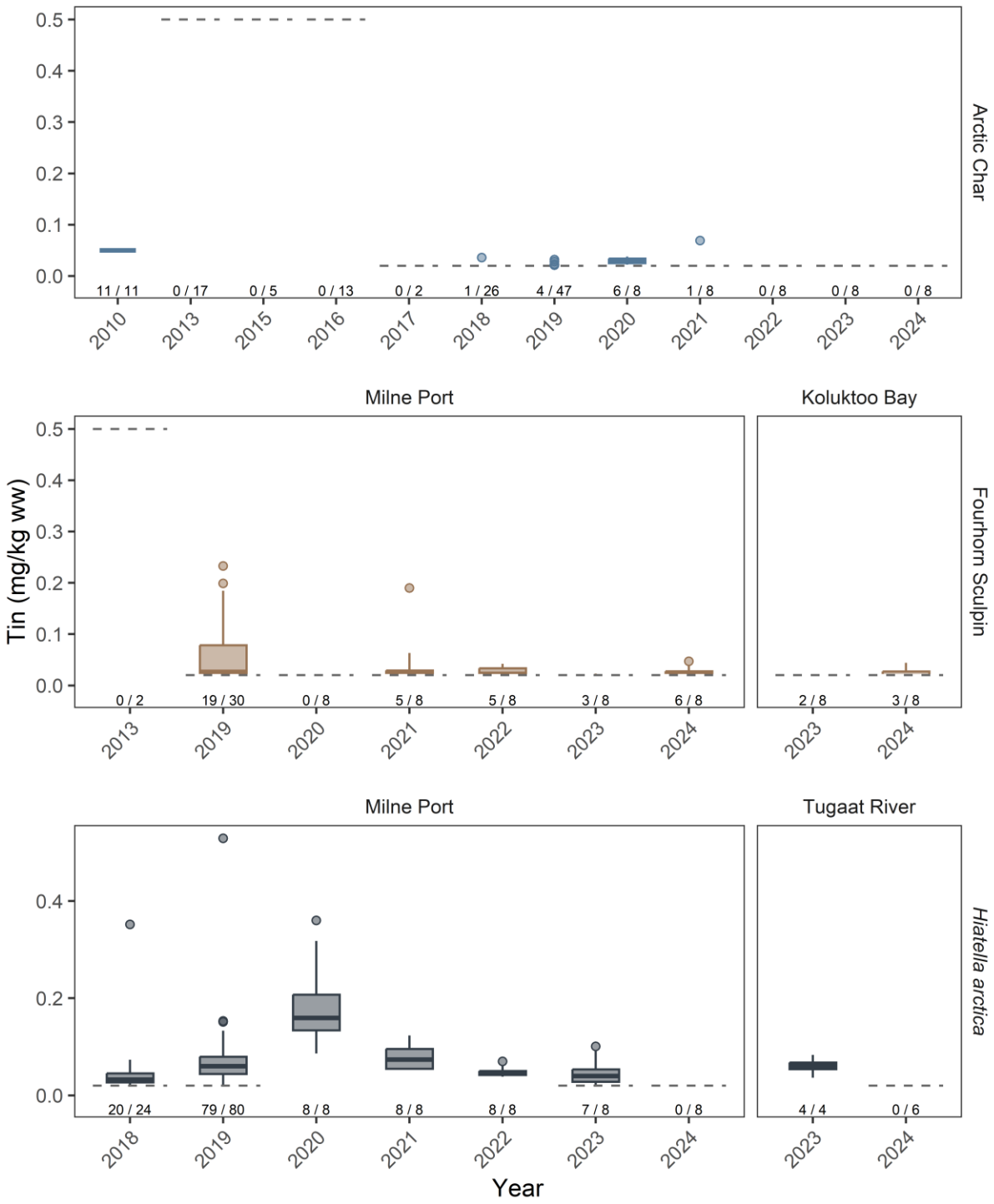
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits.

Figure 7C-26: Concentrations of Strontium for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



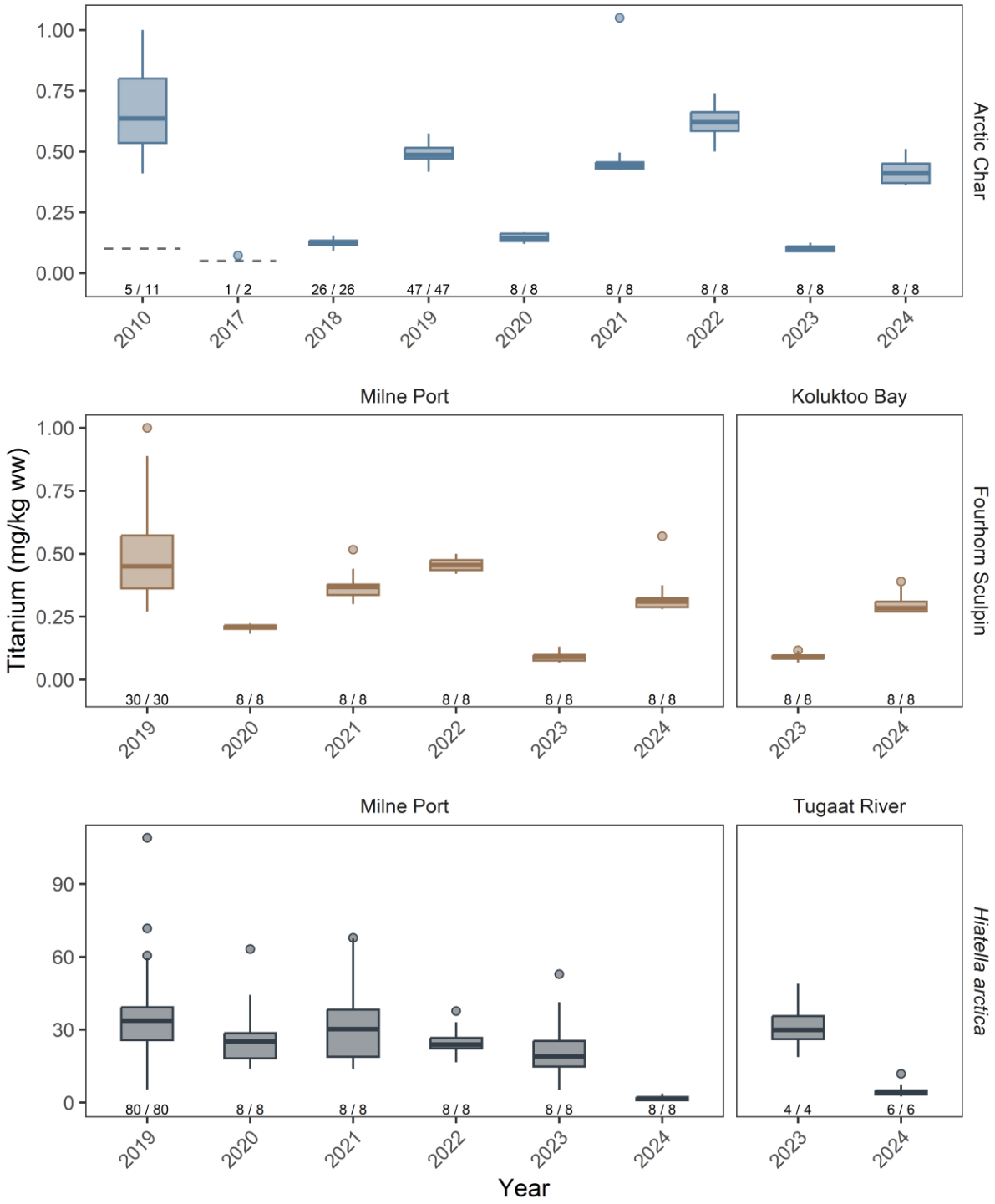
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits. Values truncated at 0.020 mg/kg ww and 0.0030 mg/kg ww for Arctic Char and Fourhorn Sculpin, respectively, to improve interpretability.

Figure 7C-27: Concentrations of Thallium for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



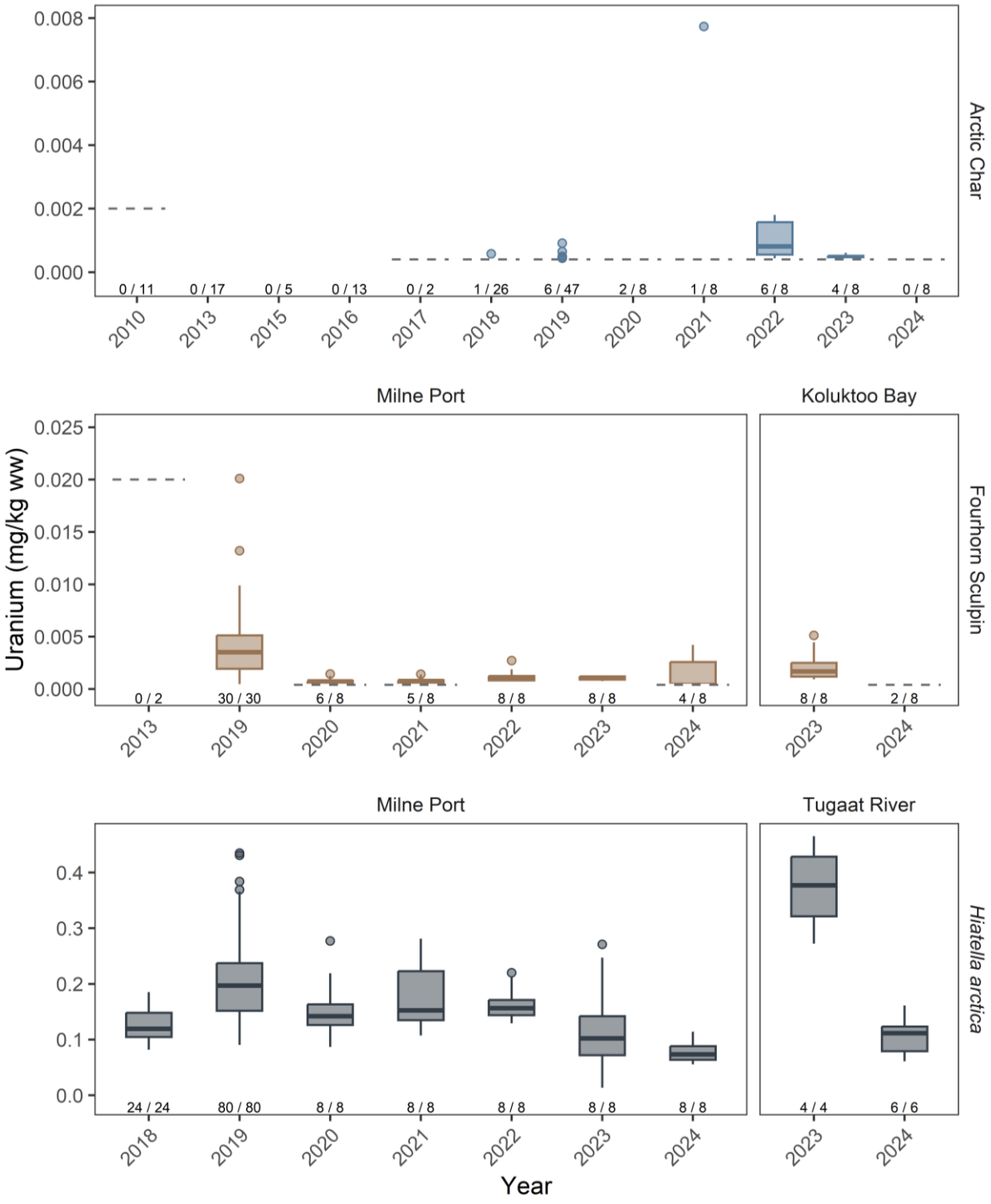
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits. Values truncated at 0.50 mg/kg ww and 0.50 mg/kg ww for Arctic Char and Fourhorn Sculpin, respectively, to improve interpretability.

Figure 7C-28: Concentrations of Tin for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



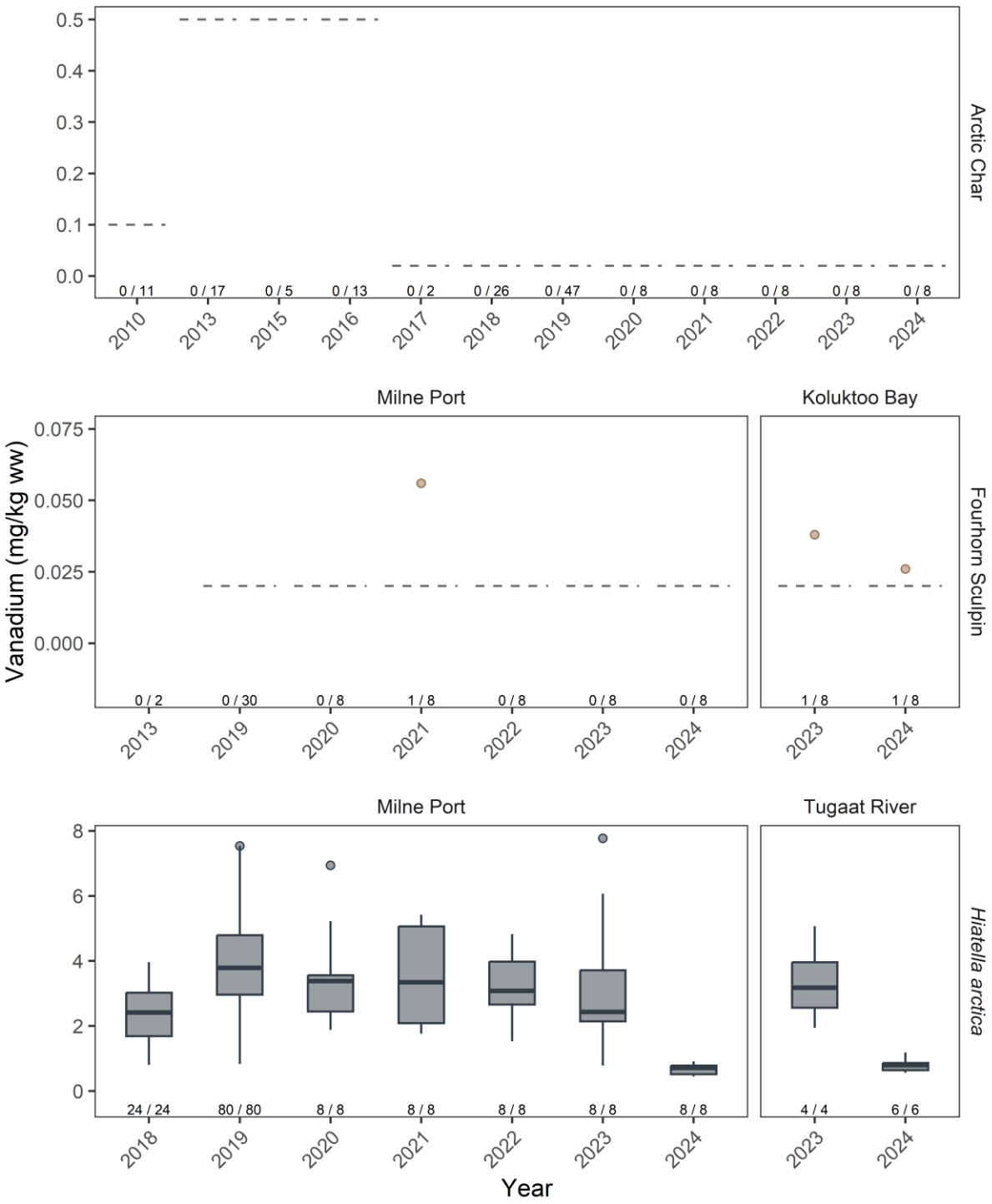
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits.

Figure 7C-29: Concentrations of Titanium for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



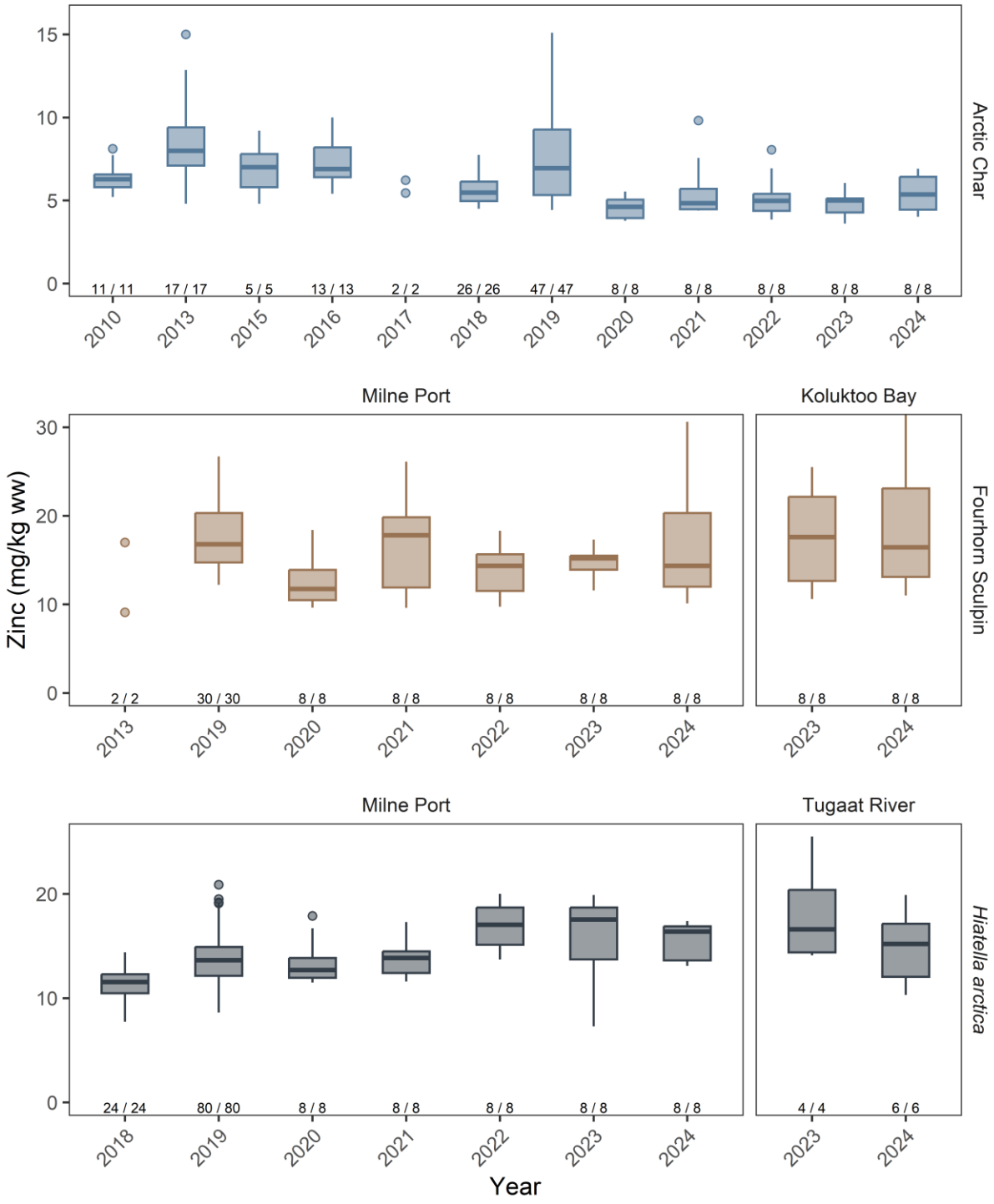
Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits. Values truncated at 0.0080 mg/kg ww and 0.025 mg/kg ww for Arctic Char and Fourhorn Sculpin, respectively, to improve interpretability.

Figure 7C-30: Concentrations of Uranium for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Dashed lines indicate detection limits. Values truncated at 0.050 mg/kg ww and 0.075 mg/kg ww for Arctic Char and Fourhorn Sculpin, respectively, to improve interpretability.

Figure 7C-31: Concentrations of Vanadium for *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024



Total sample size (n) and number of samples above detection limits (n>DL) are shown above the x-axis as “n>DL/n”. Values below DL are not shown in the plots. Values truncated at 16 mg/kg ww and 30 mg/kg ww for Arctic Char and Fourhorn Sculpin, respectively, to improve interpretability.

Figure 7C-32: Concentrations of Zinc for Arctic Char, Fourhorn Sculpin and *Hiatella arctica* Tissue Sampled from the Milne Port Area and Reference Areas, 2010 to 2024

APPENDIX 7D

Reference Area Supporting Environmental Data

Table 7D-1: Results of Water Quality Assessment, Reference Areas, 2024

Parameter	CCME AQUATIC LIFE MARINE WATER - LONG TERM	CCME AQUATIC LIFE MARINE WATER - SHORT TERM	Unit	Station	Koluktoo Bay		Tugaat River Estuary	Blank	Mean	Relative Percent Difference
				Sample Name	KLK-Ref-1	DUP-F	TGT-Ref-1	Ref-1		
				Sample Date	09-Aug-2024	09-Aug-2024	09-Aug-2024	09-Aug-2024		
				FIELD_SDG	YL2401157-002	YL2401157-004	YL2401157-003	YL2401157-001		
					-	-	-	-		
Field + Physical										
Alkalinity, total (as CaCO3)	-	-	mg/L		95.5	95.5	104	<1.0	95.5	0%
Conductivity	-	-	µS/cm		37600	37400	42500	2.0	37500	1%
Hardness (as CaCO3), dissolved	-	-	mg/L		4960	4860	5330	<1.00	4910	2%
Hardness (as CaCO3), from total Ca/Mg	-	-	mg/L		4920	4890	5460	<1.00	4905	1%
Solids, total dissolved [TDS]	-	-	mg/L		35700	35500	40000	<10	35600	1%
Solids, total suspended [TSS]	-	-	mg/L		<2.0	<2.0	<2.0	<2.0	NC	NC
Turbidity	-	-	NTU		0.28	0.30	0.11	<0.10	0.29	7%
pH	**7.0 - 8.7**	-	pH units		8.02	8.00	8.01	5.54	8.01	0%
Salinity	-	-	psu		24.8	24.6	28.4	<1.0	24.7	1%
Anions + Nutrients										
Ammonia, total (as N)	-	-	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	NC	NC
Bromide	-	-	mg/L		45.4	46.2	52.8	<5.0	45.8	2%
Chloride	-	-	mg/L		13500	13800	15600	<50	13650	2%
Fluoride	-	-	mg/L		0.72	0.73	0.78	<0.20	0.725	1%
Kjeldahl nitrogen, total [TKN]	-	-	mg/L		<0.100	0.107	0.112	<0.050	NC	NC
Nitrate (as N)	**339**	**45**	mg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Nitrite (as N)	-	-	mg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Phosphorus, total	-	-	mg/L		0.0170	0.0185	0.0202	<0.0020	0.01775	8%
Phosphorus, total dissolved	-	-	mg/L		0.0159	0.0157	0.0187	<0.0020	0.0158	1%
Sulfate (as SO4)	-	-	mg/L		1910	1910	2150	<3.0	1910	0%
Carbon										
Carbon, dissolved organic [DOC]	-	-	mg/L		0.96	0.87	1.00	<0.50	0.915	10%
Carbon, total organic [TOC]	-	-	mg/L		0.82	0.82	0.79	<0.50	0.82	0%
Metals, Total										
Aluminum	-	-	mg/L		0.0096	0.0111	0.0111	<0.0050	0.01035	14%
Antimony	-	-	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	NC	NC
Arsenic	**0.0125**	-	mg/L		0.00359	0.00388	0.00401	<0.00040	0.003735	8%
Barium	-	-	mg/L		0.0085	0.0089	0.0082	<0.0010	0.0087	5%
Beryllium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Bismuth	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Boron	-	-	mg/L		3.34	3.44	3.66	<0.30	3.39	3%
Cadmium	**0.00012**	-	mg/L		0.000021	0.000021	0.000036	<0.000020	0.000021	0%
Calcium	-	-	mg/L		323	331	357	<1.0	327	2%
Cesium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Chromium	**0.0015 (VI)**	-	mg/L		<0.00050	0.00060	<0.00050	<0.00050	NC	NC
Cobalt	-	-	mg/L		0.000061	0.000070	0.000067	<0.000050	0.0000655	14%
Copper	-	-	mg/L		0.00929	0.00302	0.0122	<0.00050	0.006155	102%
Gallium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Iron	-	-	mg/L		0.012	0.016	0.012	<0.010	0.014	29%
Lead	-	-	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	NC	NC
Lithium	-	-	mg/L		0.144	0.148	0.157	<0.020	0.146	3%
Magnesium	-	-	mg/L		1000	986	1110	<1.0	993	1%
Manganese	-	-	mg/L		0.00095	0.00110	0.00081	<0.00020	0.001025	15%
Mercury	**0.000016**	-	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	NC	NC
Molybdenum	-	-	mg/L		0.00809	0.00853	0.00867	<0.00010	0.00831	5%
Nickel	-	-	mg/L		<0.00050	0.00063	<0.00050	<0.00050	NC	NC
Phosphorus	-	-	mg/L		<0.050	<0.050	<0.050	<0.050	NC	NC
Potassium	-	-	mg/L		287	298	320	<1.0	292.5	4%
Rhenium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Rubidium	-	-	mg/L		0.0805	0.0873	0.0896	<0.0050	0.0839	8%
Selenium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Silicon	-	-	mg/L		<1.0	<1.0	<1.0	<1.0	NC	NC
Silver	-	**0.0075**	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	NC	NC
Sodium	-	-	mg/L		7600	7750	8360	<2.5	7675	2%
Strontium	-	-	mg/L		5.47	5.97	6.14	<0.010	5.72	9%
Sulphur (Colloidal)	-	-	mg/L		704	743	787	<5.0	723.5	5%
Tellurium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Thallium	-	-	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	NC	NC
Thorium-232	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Tin	-	-	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	NC	NC
Titanium	-	-	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	NC	NC
Tungsten	-	-	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	NC	NC
Uranium	-	-	mg/L		0.00246	0.00243	0.00268	<0.000050	0.002445	1%
Vanadium	-	-	mg/L		0.00093	0.00095	0.00105	<0.00050	0.00094	2%
Yttrium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Zinc	-	-	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	NC	NC
Zirconium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Metals, Dissolved										
Aluminum	-	-	mg/L		<0.0050	<0.0050	0.0061	<0.0050	NC	NC
Antimony	-	-	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	NC	NC
Arsenic	**0.0125**	-	mg/L		0.00289	0.00301	0.00325	<0.00040	0.00295	4%
Barium	-	-	mg/L		0.0087	0.0086	0.0084	<0.0010	0.00865	1%
Beryllium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Bismuth	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Boron	-	-	mg/L		3.51	3.56	3.88	<0.30	3.535	1%
Cadmium	**0.00012**	-	mg/L		<0.000020	0.000022	0.000038	<0.000020	NC	NC
Calcium	-	-	mg/L		320	325	352	<1.0	322.5	2%
Cesium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Chromium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Cobalt	-	-	mg/L		<0.000050	0.000061	0.000081	<0.000050	NC	NC
Copper	-	-	mg/L		<0.00050	<0.00050	0.00160	<0.00050	NC	NC
Gallium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Iron	-	-	mg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Lead	-	-	mg/L		<0.00010	<0.00010	0.00175	<0.00010	NC	NC
Lithium	-	-	mg/L		0.142	0.136	0.155	<0.020	0.139	4%
Magnesium	-	-	mg/L		1010	983	1080	<1.0	996.5	3%
Manganese	-	-	mg/L		0.00062	0.00059	0.00104	<0.00010	0.000605	5%
Mercury	**0.000016**	-	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	NC	NC
Molybdenum	-	-	mg/L		0.00734	0.00705	0.00780	<0.00010	0.007195	4%
Nickel	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Phosphorus	-	-	mg/L		<0.050	<0.050	<0.050	<0.050	NC	NC
Potassium	-	-	mg/L		288	288	315	<1.0	288	0%
Rhenium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Rubidium	-	-	mg/L		0.0744	0.0737	0.0816	<0.0050	0.07405	1%
Selenium	-	-	mg/L		<0.00050	0.00062	0.00072	<0.00050	NC	NC
Silicon	-	-	mg/L		<1.0	<1.0	<1.0	<1.0	NC	NC
Silver	-	**0.0075**	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	NC	NC
Sodium	-	-	mg/L		7170	7520	7840	<2.5	7345	5%
Strontium	-	-	mg/L		5.05	4.99	5.51	<0.010	5.02	1%
Sulphur (Colloidal)	-	-	mg/L		690	678	758	<5.0	684	2%
Tellurium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Thallium	-	-	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	NC	NC
Thorium-232	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Tin	-	-	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	NC	NC
Titanium	-	-	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	NC	NC
Tungsten	-	-	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	NC	NC
Uranium	-	-	mg/L		0.00244	0.00250	0.00261	<0.000050	0.00247	2%
Vanadium	-	-	mg/L		0.00088	0.00085	0.00094	<0.00050	0.000865	3%
Yttrium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
Zinc	-	-	mg/L		<0.0010	<0.0010	0.0200	0.0016	NC	NC
Zirconium	-	-	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	NC	NC
VOCs + BTEX										
Benzene	**110**	-	µg/L		<0.50	<0.50	<0.50	<0.50	NC	NC
Ethylbenzene	**25**	-	µg/L		<0.50	<0.50	<0.50	<0.50	NC	NC
Methyl-tert-butyl ether [MTBE]	**5000**	-	µg/L		<0.50	<0.50	<0.50	<0.50	NC	NC
Styrene	-	-	µg/L		<0.50	<0.50	<0.50	<0.50	NC	NC
Toluene	**215**	-	µg/L		<0.50	<0.50	<0.50	<0.50	NC	NC
Xylene, m+p-	-	-	µg/L		<0.40	<0.40	<0.40	<0.40	NC	NC
Xylene, o-	-	-	µg/L		<0.30	<0.30	<0.30	<0.30	NC	NC
Xylenes, total	-	**1000** [4]	µg/L		<0.50	<0.50	<0.50	<0.50	NC	NC
SUM OF BTEX	-	-	µg/L		<3.7	<3.7	<3.7	<3.7	NC	NC
Hydrocarbons										
EPH (C10-C19)	-	-	µg/L		<250	<250	<250	<250	NC	NC
EPH (C19-C32)	-	-	µg/L		<250	<250	<250	<250	NC	NC
F1 (C6-C10)	-	-	µg/L		<100	<100	<100	<100	NC	NC
F2 (C10-C16)	-	-	µg/L		<100	<100	<100	<100	NC	NC
F3 (C16-C34)	-	-	µg/L		<250	<250	<250	<250	NC	NC
F4 (C34-C50)	-	-	µg/L		<250	<250	<250	<250	NC	NC
VHw (C6-C10)	-	-	µg/L		<100	<100	<100	<100	NC	NC
F1-BTEX	-	-	µg/L		<100	<100	<100	<100	NC	NC
LEPHw	-	-	µg/L		<250	<250	<250	<250	NC	NC
VPHw	-	-	µg/L		<100	<100	<100	<100	NC	NC
HEPHw	-	-	µg/L		<250	<250	<250	<250	NC	NC
TEH (C10-C50)	-	-	µg/L		<400	<400	<400	<400	NC	NC
TEH (C16-C50)	-	-	µg/L		<400	<400	<400	<400	NC	NC
Acenaphthene	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Acenaphthylene	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Acridine	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Anthracene	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Benz(a)anthracene	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Benzo(a)pyrene	-	-	µg/L		<0.0050	<0.0050	<0.0050	<0.0050	NC	NC
Benzo(b+j)fluoranthene	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Benzo(b+j+k)fluoranthene	-	-	µg/L		<0.015	<0.015	<0.015	<0.015	NC	NC
Benzo(g,h,i)perylene	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Benzo(k)fluoranthene	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Chrysene	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Dibenz(a,h)anthracene	-	-	µg/L		<0.0050	<0.0050	<0.0050	<0.0050	NC	NC
Fluoranthene	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Fluorene	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Indeno(1,2,3-c,d)pyrene	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Methylnaphthalene, 1-	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Methylnaphthalene, 2-	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Naphthalene	**1.4**	-	µg/L		<0.050	<0.050	<0.050	<0.050	NC	NC
Phenanthrene	-	-	µg/L		<0.020	<0.020	<0.020	<0.020	NC	NC
Pyrene	-	-	µg/L		<0.010	<0.010	<0.010	<0.010	NC	NC
Quinoline	-	-	µg/L		<0.050	<0.050	<0.050	<0.050	NC	NC
PAHs, Low molecular weight (BC AWQ) [1,2]	-	-	µg/L		<0.11	<0.11	<0.11	<0.11	NC	NC
PAHs, High molecular weight (BC AWQ) [1,3]	-	-	µg/L		<0.11	<0.11	<0.11	<0.11	NC	NC
PAHs, total (EPA 16) [5]	-	-	µg/L		<0.295	<0.295	<0.295	<0.295	NC	NC

Notes:

(VI)- hexavalent chromium

BTEX = benzene, toluene, ethylbenzene and xylene; CCME = Canadian Council of Ministers for the Environment; F1, F2, F3. F4 - Fractions of hydrocarbons; mg/L = milligrams per liter; MP-05 - monitoring stations west of the ore dock, downstream from the MP-05 discharge in a radial design; MP-06 - monitoring stations east of the ore dock; N = nitrogen; NA = not applicable; NC = not calculated; NTU = Nephelometric Turbidity Units; pH = scale of acidity; psu = practical salinity units; VHC = volatile hydrocarbons; VOCs = volatile organic compounds; µg/L = microgram per liter; µS/cm = milliSiemens per centimeter; "-" = no value; "<" = less than detection limit; NC = not calculated; NA = not applicable.

[1] Sum of all compounds analyzed in the chemical class, values below the method detection limit were assigned a value of the detection limit.

[2] Low molecular weight PAHs are comprised of acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene

[3] High molecular weight PAHs are comprised of benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(b+j+k)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, indeno(1,2,3-c,d)pyrene, and pyrene

[4] Based on Federal Environmental Quality Guidelines (FEQG) for total xylene (ECCC 2024).

[5] Total PAHs are comprised of Acenaphthene, Acenaphthylene, Acridine, Anthracene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(b+j)fluoranthene, Benzo(b+j+k)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-c,d)pyrene, Methylnaphthalene, 1-, Methylnaphthalene, 2-, Naphthalene, Phenanthrene, Pyrene, and Quinoline

CCME MARINE - LONG TERM GUIDELINE EXCEEDANCE

CCME MARINE - SHORT TERM GUIDELINE EXCEEDANCE

Table 7D-2: Results of Sediment Quality Assessment, Reference Areas, 2024

Sample ID	Lowest Detection Limits	Units	CCME [1]		NOAA Sediment Benchmarks							Eco Tox EqP(@1% TOC)	TGT-Ref-1-SG	KLK-Ref-1-SG	DUPA-SG	Mean	Relative Percent Difference
Date Sampled													09-Aug-2024	09-Aug-2024	09-Aug-2024		
Time Sampled													12:00	10:00	00:00		
Laboratory Sample ID			ISQG	PEL	T_{20}	TEL	ERL	T_{50}	PEL	ERM	AET		YL2401152-001 / VA24C1763-010	YL2401152-002 / VA24C1763-011	YL2401152-003 / VA24C1763-012		
QA/QC														FDA	FD		
Parent Sample ID															KLK-Ref-1-SG		
Physical Parameters																	
Moisture	0.25	%	-	-	-	-	-	-	-	-	-	-	27.7	28	21.8	24.9	25%
pH (1:2 soil:water)	0.1	pH units	-	-	-	-	-	-	-	-	-	-	8.57	8.62	8.51	8.565	1%
Particle Size																	
Clay (<0.004mm)	1	%	-	-	-	-	-	-	-	-	-	-	1.9	4.2	4.8	4.5	NA
Silt (0.063mm - 0.004mm)	1	%	-	-	-	-	-	-	-	-	-	-	6.8	9.9	10.2	10.05	3%
Sand (2.0mm - 0.063mm)	1	%	-	-	-	-	-	-	-	-	-	-	91.3	75.3	78	76.65	4%
Gravel (>2mm)	1	%	-	-	-	-	-	-	-	-	-	-	<1.0	10.6	7	8.8	41%
Organic / Inorganic Carbon																	
Inorganic Carbon	0.05	%	-	-	-	-	-	-	-	-	-	-	0.107	2.33	2.29	2.31	2%
Total Carbon	0.05	%	-	-	-	-	-	-	-	-	-	-	0.355	3.32	3.28	3.3	1%
Total Organic Carbon	0.06	%	-	-	-	-	-	-	-	-	-	-	0.248	0.99	0.99	0.99	0%
Inorganic Carbon (as CaCO3 equivalent)	0.4	%	-	-	-	-	-	-	-	-	-	-	0.89	19.4	19.1	19.25	2%
Organic Matter	0.1	%	-	-	-	-	-	-	-	-	-	-	0.43	1.71	1.71	1.71	0%
Metals																	
Aluminum	50	mg/kg	-	-	-	-	-	-	-	-	18000	-	5390	6790	6710	6750	1%
Antimony	0.1	mg/kg	-	-	0.63	-	-	2.4	-	-	9.3	-	<0.10	<0.10	<0.10	NC	NC
Arsenic	0.1	mg/kg	7.24	41.6	7.4	7.24	8.2	20	41.6	70	35	-	1.6	3.8	3.44	3.62	10%
Barium	0.5	mg/kg	-	-	-	130.1	-	-	-	-	48	-	16.6	36.1	*48.7*	42.4	30%
Beryllium	0.1	mg/kg	-	-	-	-	-	-	-	-	-	-	0.4	0.34	0.34	0.34	NA
Bismuth	0.2	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.20	<0.20	<0.20	NC	NC
Boron	5	mg/kg	-	-	-	-	-	-	-	-	-	-	7.6	26	27.4	26.7	5%
Cadmium	0.02	mg/kg	0.7	4.2	0.38	0.68	1.2	1.4	4.21	9.6	3	-	<0.020	0.054	0.067	0.0605	NA
Calcium	50	mg/kg	-	-	-	-	-	-	-	-	-	-	3500	60300	62400	61350	3%
Chromium	0.5	mg/kg	52.3	160	49	52.3	81	141	160	370	62	-	12.2	16.5	16.6	16.55	1%
Cobalt	0.1	mg/kg	-	-	-	-	-	-	-	-	10	-	3.29	3.53	3.25	3.39	8%
Copper	0.5	mg/kg	18.7	108	32	18.7	34	94	108	270	390	-	5.04	4.69	5.42	5.055	14%
Iron	50	mg/kg	-	-	-	-	-	-	-	-	220000	-	10700	11900	11800	11850	1%
Lead	0.5	mg/kg	30.2	112	30	30.24	46.7	94	112	218	400	-	3.49	5.56	5.8	5.68	4%
Lithium	2	mg/kg	-	-	-	-	-	-	-	-	-	-	11.4	16.8	16.2	16.5	4%
Magnesium	20	mg/kg	-	-	-	-	-	-	-	-	-	-	6530	16400	16600	16500	1%
Manganese	1	mg/kg	-	-	-	-	-	-	-	-	260	-	84.3	104	97.7	100.85	6%
Mercury	0.005	mg/kg	0.13	0.7	0.14	0.13	0.15	0.48	0.7	0.71	0.41	-	<0.0050	0.0099	0.0113	0.0106	NA
Molybdenum	0.1	mg/kg	-	-	-	-	-	-	-	-	-	-	0.21	0.23	0.22	0.225	NA
Nickel	0.5	mg/kg	30[(a)]	50[(a)]	15	15.9	20.9	47	42.8	51.6	110	-	7.51	11.3	10.9	11.1	4%
Phosphorus	50	mg/kg	-	-	-	-	-	-	-	-	-	-	407	354	342	348	3%
Potassium	100	mg/kg	-	-	-	-	-	-	-	-	-	-	1200	1740	1800	1770	3%
Selenium	0.2	mg/kg	-	-	-	-	-	-	-	-	1	-	<0.20	<0.20	0.2	NC	NC
Silver	0.1	mg/kg	1[(a)]	2.2[(a)]	0.23	0.73	1	1.1	1.77	3.7	3.1	-	<0.10	<0.10	<0.10	NC	NC
Sodium	50	mg/kg	-	-	-	-	-	-	-	-	-	-	2810	3500	3210	3355	9%
Strontium	0.5	mg/kg	-	-	-	-	-	-	-	-	-	-	8.26	58.8	56	57.4	5%
Sulfur	1000	mg/kg	-	-	-	-	-	-	-	-	-	-	<1000	<1000	<1000	NC	NC
Thallium	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	0.06	0.097	0.092	0.0945	NA
Tin	2	mg/kg	-	-	-	0.048	-	-	-	-	3.4	-	<2.0	<2.0	<2.0	NC	NC
Titanium	1	mg/kg	-	-	-	-	-	-	-	-	-	-	206	90.8	107	98.9	16%
Tungsten	0.5	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.50	<0.50	<0.50	NC	NC
Uranium	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	1.48	0.612	0.513	0.5625	18%
Vanadium	0.2	mg/kg	-	-	-	-	-	-	-	-	57	-	14.1	15.2	16.2	15.7	6%
Zinc	2	mg/kg	124	271	94	124	150	245	271	410	410	-	17.7	19.6	19.3	19.45	2%
Zirconium	1	mg/kg	-	-	-	-	-	-	-	-	-	-	4.5	2.5	2.8	2.65	NA
BTEX																	
Benzene	0.005	mg/kg	-	-	-	-	-	-	-	-	-	0.06	<0.0050	<0.0050	<0.0050	NC	NC
Ethylbenzene	0.015	mg/kg	-	-	-	-	-	-	-	-	0.004	3.6	<0.015	<0.015	<0.015	NC	NC
Toluene	0.05	mg/kg	-	-	-	-	-	-	-	-	-	0.67	<0.050	<0.050	<0.050	NC	NC
Styrene	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Xylene, m+p-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	0.025	<0.050	<0.050	<0.050	NC	NC
Xylene, o-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Xylenes, total	0.075	mg/kg	-	-	-	-	-	-	-	-	0.004	-	<0.075	<0.075	<0.075	NC	NC
Methyl-tert-butyl ether [MTBE]	0.04	mg/kg											<0.040	<0.040	<0.040	NC	NC
Volatile Organic Compounds																	
Chlorobenzene	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Chloromethane	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Dichlorobenzene, 1,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Dichlorobenzene, 1,3-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Dichlorobenzene, 1,4-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Dichloropropane, 1,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Dichloropropylene, cis+trans-1,3-	0.075	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.075	<0.075	<0.075	NC	NC
Dichloropropylene, cis-1,3-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Tetrachloroethane, 1,1,1,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Tetrachloroethane, 1,1,2,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Trichloroethane, 1,1,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Trichlorofluoromethane	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Volatile Organic Compounds [Drycleaning]																	
Carbon tetrachloride	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Chloroethane	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Dichloroethane, 1,1-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Dichloroethane, 1,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Dichloroethylene, 1,1-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.085	<0.430	<0.305	NC	NC
Dichloroethylene, cis-1,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Dichloroethylene, trans-1,2-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Dichloromethane	0.045	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.045	<0.045	<0.045	NC	NC
Dichloropropylene, trans-1,3-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Tetrachloroethylene	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Trichloroethane, 1,1,1-	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Trichloroethylene	0.01	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.010	<0.010	<0.010	NC	NC
Vinyl chloride	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Volatile Organic Compounds [THMs]																	
Bromodichloromethane	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Bromoform	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Chloroform	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Dibromochloromethane	0.05	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050	<0.050	NC	NC
Hydrocarbons																	
F1 (C6-C10)	5.0	mg/kg	-	-	-	-	-	-	-	-	-	-	<5.0	<5.0	<5.0	NC	NC
F1-BTEX	5.0	mg/kg	-	-	-	-	-	-	-	-	-	-	<5.0	<5.0	<5.0	NC	NC
EPH (C10-C19)	200	mg/kg	-	-	-	-	-	-	-	-	-	-	<200	<200	<200	NC	NC
EPH (C19-C32)	200	mg/kg	-	-	-	-	-	-	-	-	-	-	<200	<200	<200	NC	NC
F2 (C10-C16)	25	mg/kg	-	-	-	-	-	-	-	-	-	-	<25	<25	<25	NC	NC
F3 (C16-C34)	50	mg/kg	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	NC	NC
F4 (C34-C50)	50	mg/kg	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	NC	NC
VHs (C6-C10)	10	mg/kg	-	-	-	-	-	-	-	-	-	-	<10	<10	<10	NC	NC
VPHs	10	mg/kg	-	-	-	-	-	-	-	-	-	-	<10	<10	<10	NC	NC
LEPHs	200	mg/kg	-	-	-	-	-	-	-	-	-	-	<200	<200	<200	NC	NC
HEPHs	200	mg/kg	-	-	-	-	-	-	-	-	-	-	<200	<200	<200	NC	NC
TEH (C10-C50)	75	mg/kg	-	-	-	-	-	-	-	-	-	-	<75	<75	<75	NC	NC
TEH (C16-C50)	75	mg/kg	-	-	-	-	-	-	-	-	-	-	<75	<75	<75	NC	NC
Polycyclinc Aromatic Hydrocarbons																	
Acenaphthene	0.005	mg/kg	0.00671	0.0889	0.019	0.007	0.016	0.116	0.089	0.500	0.130	-	<0.0050	<0.0050	<0.0050	NC	NC
Acenaphthylene	0.005	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.0050	<0.0050	<0.0050	NC	NC
Acridine	0.01	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.010	<0.010	<0.010	NC	NC
Anthracene	0.004	mg/kg	0.0469	0.245	0.034	0.0469	0.0853	0.29	0.245	1.1	0.28	-	<0.0040	<0.0040	<0.0040	NC	NC
Benz(a)anthracene	0.01	mg/kg	0.0748	0.693	0.061	0.0748	0.261	0.466	0.693	1.6	0.96	-	<0.010	<0.010	<0.010	NC	NC
Benzo(a)pyrene	0.01	mg/kg	0.0888	0.763	0.069	0.0888	0.43	0.52	0.763	1.6	1.1	-	<0.010	<0.010	<0.010	NC	NC
Benzo(b+j)fluoranthene	0.01	mg/kg	-	-	0.13	-	-	1.107	-	-	1.8	-	<0.010	<0.010	<0.010	NC	NC
Benzo(b+j+k)fluoranthene	0.015	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.015	<0.015	<0.015	NC	NC
Benzo(g,h,i)perylene	0.01	mg/kg	0.31[(a)]	0.78[(a)]	-	-	-	-	-	-	-	-	<0.010	<0.010	<0.010	NC	NC
Benzo(k)fluoranthene	0.01	mg/kg	2.3[(a)]	4.5[(a)]	0.07	-	-	0.537	-	-	1.8	-	<0.010	<0.010	<0.010	NC	NC
Chrysene	0.01	mg/kg	0.108	0.846	0.082	0.108	0.384	0.65	0.846	2.8	0.95	-	<0.010	<0.010	<0.010	NC	NC
Dibenz(a,h)anthracene	0.005	mg/kg	0.00622	0.135	0.019	0.00622	0.0634	0.113	0.135	0.26	0.23	-	<0.0050	<0.0050	<0.0050	NC	NC
Fluoranthene	0.01	mg/kg	0.113	1.494	0.119	0.113	0.6	1.034	1.494	5.1	1.3	-	<0.010	<0.010	<0.010	NC	NC
Fluorene	0.01	mg/kg	0.0212	0.144	0.019	0.0212	0.019	0.114	0.144	0.54	0.12	0.54	<0.010	<0.010	<0.010	NC	NC
Indeno(1,2,3-c,d)pyrene	0.01	mg/kg	0.34[(a)]	0.88[(a)]	0.068	-	-	0.488	-	-	0.6	-	<0.010	<0.010	<0.010	NC	NC
Methylnaphthalene, 1-	0.01	mg/kg	-	-	0.021	-	-	0.094	-	-	-	-	<0.010	<0.010	<0.010	NC	NC
Methylnaphthalene, 2-	0.01	mg/kg	0.0202	0.201	0.021	0.0202	0.07	0.128	0.201	0.67	0.064	-	<0.010	<0.010	<0.010	NC	NC
Naphthalene	0.01	mg/kg	0.0346	0.391	0.03	0.0346	0.16	0.217	0.391	2.1	0.23	0.48	<0.010	<0.010	<0.010	NC	NC
Phenanthrene	0.01	mg/kg	0.0867	0.544	0.068	0.0867	0.24	0.455	0.544	1.5	0.66	-	<0.010	<0.010	<0.010	NC	NC
Pyrene	0.01	mg/kg	0.153	1.398	0.125	0.153	0.665	0.932	1.398	2.6	2.4	-	<0.010	<0.010	<0.010	NC	NC
Quinoline	0.01	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.010	<0.010	<0.010	NC	NC
B(a)P total potency equivalents [B(a)P TPE]	0.02	mg/kg	-	-	-	-	-	-	-	-	-	-	<0.020	<0.020	<0.020	NC	NC
IACR (CCME)	0.15	-	-	-	-	-	-	-	-	-	-	-	<0.150	<0.150	<0.150	NC	NC

Notes

[1] Canadian Council of Ministers of the Environment (CCME). 1999. Canadian Sediment Quality Guidelines for the Protection of Aquatic Life. In: Canadian Environmental Quality Guidleines, 1999, Canadian Council of Ministers of the Environment, Winnipeg, MB.

[(a)CCME] Guideline values substituted with the BC ENV Working Sediment Guideline in the absence of an applicable CCME Sediment Guideline

BC ENV = British Columbia Ministry of Environment; CCME = Canadian Council of Miniters of the Environment; ISQG = interim sediment quality guidelines; mg/kg = miligram per kilogram; NOAA = National Oceanic and Atmospheric Administration; PEL = probable effects levels; REL = Effect Range Low; SWQG = working sediment quality guidelines; T20 = Concentrations corresponding to 20% probability of observing toxicity; TEL= Threshold Effects Levels; T50 = Concentrations corresponding to 50% probably of observing toxicity; PEL = Probable Effect Levels; pH = scale of acidity; % - percentage; "-" = no value or no result available

Value	Greater than CCME ISQG guideline
Value	Greater than CCME ISQG and PEL guidelines
Value	Greater than NOAA sediment Benchmarks T_{20} guideline
Value	Greater than NOAA sediment Benchmarks TEL guideline
Value	Greater than NOAA sediment Benchmarks ERLguideline
Value	Greater than NOAA sediment Benchmarks T_{50} guideline
Value	Greater than NOAA sediment Benchmarks PEL guideline
Value	Greater than NOAA sediment Benchmarks ERM guideline
Value	Greater than NOAA sediment Benchmarks AET guideline

APPENDIX 7E

Certificates of Analysis

Your Project #: CA0026317.6821.86000.04
Site#: MILNE PORT/REFERENCE SITE
Site Location: BAFFINLAND IRON MINE
Your C.O.C. #: 08542425, 08542424, 08542426

Attention: Collin Arens

WSP Canada Inc.
16820-107 AVE
EDMONTON, AB
CANADA T5P 4C3

Report Date: 2024/11/12
Report #: R3586125
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C476093
Received: 2024/09/25, 08:36

Sample Matrix: Tissue
Samples Received: 24

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mercury in Tissue by CVAF - Wet Wt	20	N/A	2024/11/05	BBY7SOP-00012	EPA 245.7 R2m
Mercury in Tissue by CVAF - Wet Wt	4	N/A	2024/11/08	BBY7SOP-00012	EPA 245.7 R2m
Elements by ICPMS - Tissue Plug Wet Wt	20	2024/10/30	2024/11/03	BBY7SOP-00021 / BBY7SOP-00002	EPA 6020b R2 m
Elements by ICPMS - Tissue Plug Wet Wt	4	2024/10/31	2024/11/03	BBY7SOP-00021 / BBY7SOP-00002	EPA 6020b R2 m
Moisture in Tissue - Freeze Drying	19	2024/10/30	2024/10/31	BBY7SOP-00021	BCMOE BCLM Aug 2014
Moisture in Tissue - Freeze Drying	1	2024/10/30	2024/11/01	BBY7SOP-00021	BCMOE BCLM Aug 2014
Moisture in Tissue - Freeze Drying	3	2024/10/31	2024/10/31	BBY7SOP-00021	BCMOE BCLM Aug 2014
Moisture in Tissue - Freeze Drying	1	2024/10/31	2024/11/01	BBY7SOP-00021	BCMOE BCLM Aug 2014
PAH in Tissue by GC/MS (SIM) (1, 2)	6	2024/10/24	2024/10/29	ATL SOP 00104	EPA 8270E R6 m
PAH in Tissue by GC/MS (SIM) (1, 2)	14	2024/10/24	2024/10/30	ATL SOP 00104	EPA 8270E R6 m
PAH in Tissue by GC/MS (SIM) (1, 2)	4	2024/10/24	2024/10/31	ATL SOP 00104	EPA 8270E R6 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Your Project #: CA0026317.6821.86000.04
Site#: MILNE PORT/REFERENCE SITE
Site Location: BAFFINLAND IRON MINE
Your C.O.C. #: 08542425, 08542424, 08542426

Attention: Collin Arens

WSP Canada Inc.
16820-107 AVE
EDMONTON, AB
CANADA T5P 4C3

Report Date: 2024/11/12
Report #: R3586125
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C476093

Received: 2024/09/25, 08:36

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Bedford, Bureau Veritas Bedford, 200 Bluewater Rd. Suite 105, Bedford, NS, Canada, B4B 1G9

(2) Results are reported on an as received basis unless otherwise indicated.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Melissa McIntosh, Customer Solutions Representative
Email: melissa.mcintosh@bureauveritas.com
Phone# (604) 734 7276

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This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Raphael Kwan, General Manager, BC and Yukon Regions responsible for British Columbia Environmental laboratory operations.

Bureau Veritas Job #: C476093
Report Date: 2024/11/12

WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

RESULTS OF CHEMICAL ANALYSES OF TISSUE

Bureau Veritas ID		CWI462		CWI463		CWI464		
Sampling Date		2024/08/04 12:10		2024/08/04 14:18		2024/08/04 14:47		
COC Number		08542425		08542425		08542425		
	UNITS	BAFF24UDPFFHSC1004	QC Batch	BAFF24UDPFFHSC1012	QC Batch	BAFF24UDPFFHSC1015	RDL	QC Batch
Polycyclic Aromatics								
1-Methylnaphthalene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
2-Methylnaphthalene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Benzo(j)fluoranthene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Perylene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Naphthalene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Acenaphthylene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Acenaphthene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Fluorene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Phenanthrene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Anthracene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Fluoranthene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Pyrene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Benzo(a)anthracene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Chrysene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Benzo(b)fluoranthene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Benzo(k)fluoranthene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Benzo(a)pyrene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Indeno(1,2,3-cd)pyrene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Dibenz(a,h)anthracene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Benzo(g,h,i)perylene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Surrogate Recovery (%)								
D10-ANTHRACENE (sur.)	%	91	B593974	88	B593975	91	N/A	B593974
D8-ACENAPHTHYLENE (sur.)	%	90	B593974	89	B593975	89	N/A	B593974
TERPHENYL-D14 (sur.)	%	98	B593974	104	B593975	98	N/A	B593974

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C476093
Report Date: 2024/11/12

WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

RESULTS OF CHEMICAL ANALYSES OF TISSUE

Bureau Veritas ID		CWI465	CWI466	CWI467		
Sampling Date		2024/08/04 14:56	2024/08/04 16:20	2024/08/05 14:52		
COC Number		08542425	08542425	08542425		
	UNITS	BAFF24UDPFFHSC1016	BAFF24UDPFFHSC1023	BAFF24UDPFFHSC1034	RDL	QC Batch
Polycyclic Aromatics						
1-Methylnaphthalene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
2-Methylnaphthalene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(j)fluoranthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Perylene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Naphthalene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Acenaphthylene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Acenaphthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Fluorene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Phenanthrene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Anthracene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Fluoranthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Pyrene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(a)anthracene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Chrysene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(b)fluoranthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(k)fluoranthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(a)pyrene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Indeno(1,2,3-cd)pyrene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Dibenz(a,h)anthracene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(g,h,i)perylene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Surrogate Recovery (%)						
D10-ANTHRACENE (sur.)	%	94	95	93	N/A	B593974
D8-ACENAPHTHYLENE (sur.)	%	92	94	92	N/A	B593974
TERPHENYL-D14 (sur.)	%	99	100	96	N/A	B593974

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C476093
Report Date: 2024/11/12

WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

RESULTS OF CHEMICAL ANALYSES OF TISSUE

Bureau Veritas ID		CWI468	CWI469	CWI470	CWI471		
Sampling Date		2024/08/08 16:53	2024/08/08 17:13	2024/08/03 17:10	2024/08/03 17:30		
COC Number		08542425	08542425	08542424	08542424		
	UNITS	BAFF24UIPFFHSC1038	BAFF24UIPFFHSC1040	BAFF24UKLKFHSC2002	BAFF24UKLKFHSC2004	RDL	QC Batch
Polycyclic Aromatics							
1-Methylnaphthalene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
2-Methylnaphthalene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Benzo(j)fluoranthene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Perylene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Naphthalene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Acenaphthylene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Acenaphthene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Fluorene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Phenanthrene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Anthracene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Fluoranthene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Pyrene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Benzo(a)anthracene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Chrysene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Benzo(b)fluoranthene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Benzo(k)fluoranthene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Benzo(a)pyrene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Indeno(1,2,3-cd)pyrene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Dibenz(a,h)anthracene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Benzo(g,h,i)perylene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	B593974
Surrogate Recovery (%)							
D10-ANTHRACENE (sur.)	%	92	94	92	94	N/A	B593974
D8-ACENAPHTHYLENE (sur.)	%	91	93	92	93	N/A	B593974
TERPHENYL-D14 (sur.)	%	96	97	95	96	N/A	B593974

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C476093
Report Date: 2024/11/12

WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

RESULTS OF CHEMICAL ANALYSES OF TISSUE

Bureau Veritas ID		CWI472		CWI473		CWI474		
Sampling Date		2024/08/03 17:39		2024/08/09 16:23		2024/08/09 16:49		
COC Number		08542424		08542424		08542424		
	UNITS	BAFF24UKLKFHSC2005	RDL	BAFF24UKLKFHSC2015	RDL	BAFF24UKLKFHSC2019	RDL	QC Batch
Polycyclic Aromatics								
1-Methylnaphthalene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
2-Methylnaphthalene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Benzo(j)fluoranthene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Perylene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Naphthalene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Acenaphthylene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Acenaphthene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Fluorene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Phenanthrene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Anthracene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Fluoranthene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Pyrene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Benzo(a)anthracene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Chrysene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Benzo(b)fluoranthene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Benzo(k)fluoranthene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Benzo(a)pyrene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Indeno(1,2,3-cd)pyrene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Dibenz(a,h)anthracene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Benzo(g,h,i)perylene	mg/kg	<0.050	0.050	<0.053	0.053	<0.050	0.050	B593974
Surrogate Recovery (%)								
D10-ANTHRACENE (sur.)	%	95	N/A	95	N/A	96	N/A	B593974
D8-ACENAPHTHYLENE (sur.)	%	94	N/A	92	N/A	95	N/A	B593974
TERPHENYL-D14 (sur.)	%	96	N/A	97 (1)	N/A	98	N/A	B593974

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Elevated PAH RDL(s) due to limited sample.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C476093
Report Date: 2024/11/12

WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

RESULTS OF CHEMICAL ANALYSES OF TISSUE

Bureau Veritas ID		CWI475	CWI476	CWI477		
Sampling Date		2024/08/09 17:59	2024/08/09 18:20	2024/08/16 17:20		
COC Number		08542424	08542424	08542424		
	UNITS	BAFF24UKLKFHSC2031	BAFF24UKLKFHSC2035	BAFF24UKLKFHSC2037	RDL	QC Batch
Polycyclic Aromatics						
1-Methylnaphthalene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
2-Methylnaphthalene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(j)fluoranthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Perylene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Naphthalene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Acenaphthylene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Acenaphthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Fluorene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Phenanthrene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Anthracene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Fluoranthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Pyrene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(a)anthracene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Chrysene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(b)fluoranthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(k)fluoranthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(a)pyrene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Indeno(1,2,3-cd)pyrene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Dibenz(a,h)anthracene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(g,h,i)perylene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Surrogate Recovery (%)						
D10-ANTHRACENE (sur.)	%	96	93	91	N/A	B593974
D8-ACENAPHTHYLENE (sur.)	%	93	92	92	N/A	B593974
TERPHENYL-D14 (sur.)	%	100	95	95	N/A	B593974

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C476093
Report Date: 2024/11/12

WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

RESULTS OF CHEMICAL ANALYSES OF TISSUE

Bureau Veritas ID		CWI478	CWI479	CWI480		
Sampling Date		2024/08/01 10:41	2024/08/07 12:54	2024/08/08 11:12		
COC Number		08542426	08542426	08542426		
	UNITS	BAFF23UDPFARCH4001	BAFF24UDPFARCH4002	BAFF24UIPFARCH4003	RDL	QC Batch
Polycyclic Aromatics						
1-Methylnaphthalene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
2-Methylnaphthalene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(j)fluoranthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Perylene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Naphthalene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Acenaphthylene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Acenaphthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Fluorene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Phenanthrene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Anthracene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Fluoranthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Pyrene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(a)anthracene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Chrysene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(b)fluoranthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(k)fluoranthene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(a)pyrene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Indeno(1,2,3-cd)pyrene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Dibenz(a,h)anthracene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Benzo(g,h,i)perylene	mg/kg	<0.050	<0.050	<0.050	0.050	B593974
Surrogate Recovery (%)						
D10-ANTHRACENE (sur.)	%	94	94	89	N/A	B593974
D8-ACENAPHTHYLENE (sur.)	%	93	92	89	N/A	B593974
TERPHENYL-D14 (sur.)	%	97	96	94	N/A	B593974

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C476093
Report Date: 2024/11/12

WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

RESULTS OF CHEMICAL ANALYSES OF TISSUE

Bureau Veritas ID		CWI481		CWI482		CWI483		
Sampling Date		2024/08/08 11:12		2024/08/08 11:12		2024/08/11 11:47		
COC Number		08542426		08542426		08542426		
	UNITS	BAFF24UIPFARCH4004	QC Batch	BAFF24UIPFARCH4005	QC Batch	BAFF24UIPFARCH4008	RDL	QC Batch
Polycyclic Aromatics								
1-Methylnaphthalene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
2-Methylnaphthalene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Benzo(j)fluoranthene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Perylene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Naphthalene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Acenaphthylene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Acenaphthene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Fluorene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Phenanthrene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Anthracene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Fluoranthene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Pyrene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Benzo(a)anthracene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Chrysene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Benzo(b)fluoranthene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Benzo(k)fluoranthene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Benzo(a)pyrene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Indeno(1,2,3-cd)pyrene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Dibenz(a,h)anthracene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Benzo(g,h,i)perylene	mg/kg	<0.050	B593974	<0.050	B593975	<0.050	0.050	B593974
Surrogate Recovery (%)								
D10-ANTHRACENE (sur.)	%	91	B593974	84	B593975	93	N/A	B593974
D8-ACENAPHTHYLENE (sur.)	%	90	B593974	82	B593975	92	N/A	B593974
TERPHENYL-D14 (sur.)	%	94	B593974	88	B593975	95	N/A	B593974

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

RESULTS OF CHEMICAL ANALYSES OF TISSUE

Bureau Veritas ID		CWI484	CWI485		
Sampling Date		2024/08/11 11:47	2024/08/17 12:35		
COC Number		08542426	08542426		
	UNITS	BAFF24UIPFARCH4010	BAFF24UIPFARCH4012	RDL	QC Batch
Polycyclic Aromatics					
1-Methylnaphthalene	mg/kg	<0.050	<0.050	0.050	B593975
2-Methylnaphthalene	mg/kg	<0.050	<0.050	0.050	B593975
Benzo(j)fluoranthene	mg/kg	<0.050	<0.050	0.050	B593975
Perylene	mg/kg	<0.050	<0.050	0.050	B593975
Naphthalene	mg/kg	<0.050	<0.050	0.050	B593975
Acenaphthylene	mg/kg	<0.050	<0.050	0.050	B593975
Acenaphthene	mg/kg	<0.050	<0.050	0.050	B593975
Fluorene	mg/kg	<0.050	<0.050	0.050	B593975
Phenanthrene	mg/kg	<0.050	<0.050	0.050	B593975
Anthracene	mg/kg	<0.050	<0.050	0.050	B593975
Fluoranthene	mg/kg	<0.050	<0.050	0.050	B593975
Pyrene	mg/kg	<0.050	<0.050	0.050	B593975
Benzo(a)anthracene	mg/kg	<0.050	<0.050	0.050	B593975
Chrysene	mg/kg	<0.050	<0.050	0.050	B593975
Benzo(b)fluoranthene	mg/kg	<0.050	<0.050	0.050	B593975
Benzo(k)fluoranthene	mg/kg	<0.050	<0.050	0.050	B593975
Benzo(a)pyrene	mg/kg	<0.050	<0.050	0.050	B593975
Indeno(1,2,3-cd)pyrene	mg/kg	<0.050	<0.050	0.050	B593975
Dibenz(a,h)anthracene	mg/kg	<0.050	<0.050	0.050	B593975
Benzo(g,h,i)perylene	mg/kg	<0.050	<0.050	0.050	B593975
Surrogate Recovery (%)					
D10-ANTHRACENE (sur.)	%	83	83	N/A	B593975
D8-ACENAPHTHYLENE (sur.)	%	82	81	N/A	B593975
TERPHENYL-D14 (sur.)	%	97	97	N/A	B593975

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI462		CWI463		
Sampling Date		2024/08/04 12:10		2024/08/04 14:18		
COC Number		08542425		08542425		
	UNITS	BAFF24UDPFFHSC1004	RDL	BAFF24UDPFFHSC1012	RDL	QC Batch
Mercury by CVAF						
Total (Wet Wt) Mercury (Hg)	mg/kg	0.204	0.0020	0.320	0.010	B589198
Total Metals by ICPMS						
Total (Wet Wt) Aluminum (Al)	mg/kg	1.24	0.50	1.32	0.50	B587518
Total (Wet Wt) Antimony (Sb)	mg/kg	0.0034	0.0020	0.0069	0.0020	B587518
Total (Wet Wt) Arsenic (As)	mg/kg	2.15	0.0050	3.25	0.0050	B587518
Total (Wet Wt) Barium (Ba)	mg/kg	0.017	0.010	0.030	0.010	B587518
Total (Wet Wt) Beryllium (Be)	mg/kg	<0.0020	0.0020	<0.0020	0.0020	B587518
Total (Wet Wt) Bismuth (Bi)	mg/kg	0.0020	0.0013	0.0026	0.0013	B587518
Total (Wet Wt) Boron (B)	mg/kg	<0.20	0.20	<0.20	0.20	B587518
Total (Wet Wt) Cadmium (Cd)	mg/kg	0.0069	0.0013	0.0077	0.0013	B587518
Total (Wet Wt) Calcium (Ca)	mg/kg	129	4.0	111	4.0	B587518
Total (Wet Wt) Chromium (Cr)	mg/kg	<0.025	0.025	0.055	0.025	B587518
Total (Wet Wt) Cobalt (Co)	mg/kg	0.0140	0.0013	0.0162	0.0013	B587518
Total (Wet Wt) Copper (Cu)	mg/kg	0.499	0.013	0.638	0.013	B587518
Total (Wet Wt) Iron (Fe)	mg/kg	5.69	0.25	8.30	0.25	B587518
Total (Wet Wt) Lead (Pb)	mg/kg	0.0085	0.0013	0.0093	0.0013	B587518
Total (Wet Wt) Magnesium (Mg)	mg/kg	199	0.40	205	0.40	B587518
Total (Wet Wt) Manganese (Mn)	mg/kg	0.154	0.010	0.170	0.010	B587518
Total (Wet Wt) Mercury (Hg)	mg/kg	0.188	0.013	0.303	0.013	B587518
Total (Wet Wt) Molybdenum (Mo)	mg/kg	<0.0080	0.0080	<0.0080	0.0080	B587518
Total (Wet Wt) Nickel (Ni)	mg/kg	0.014	0.010	0.060	0.010	B587518
Total (Wet Wt) Phosphorus (P)	mg/kg	2070	2.0	1990	2.0	B587518
Total (Wet Wt) Potassium (K)	mg/kg	3620	2.5	3320	2.5	B587518
Total (Wet Wt) Selenium (Se)	mg/kg	0.489	0.010	0.450	0.010	B587518
Total (Wet Wt) Silver (Ag)	mg/kg	<0.0013	0.0013	<0.0013	0.0013	B587518
Total (Wet Wt) Sodium (Na)	mg/kg	679	2.5	894	2.5	B587518
Total (Wet Wt) Strontium (Sr)	mg/kg	0.442	0.013	0.585	0.013	B587518
Total (Wet Wt) Thallium (Tl)	mg/kg	0.00106	0.00040	0.00062	0.00040	B587518
Total (Wet Wt) Tin (Sn)	mg/kg	<0.020	0.020	0.021	0.020	B587518
Total (Wet Wt) Titanium (Ti)	mg/kg	0.32	0.13	0.28	0.13	B587518
Total (Wet Wt) Uranium (U)	mg/kg	<0.00040	0.00040	0.00203	0.00040	B587518

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C476093
Report Date: 2024/11/12

WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI462		CWI463		
Sampling Date		2024/08/04 12:10		2024/08/04 14:18		
COC Number		08542425		08542425		
	UNITS	**BAFF24UDPFFHSC1004**	**RDL**	**BAFF24UDPFFHSC1012**	**RDL**	**QC Batch**
Total (Wet Wt) Vanadium (V)	mg/kg	<0.020	0.020	<0.020	0.020	B587518
Total (Wet Wt) Zinc (Zn)	mg/kg	12.2	0.20	15.7	0.20	B587518
RDL = Reportable Detection Limit						

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI464	CWI465	CWI466		
Sampling Date		2024/08/04 14:47	2024/08/04 14:56	2024/08/04 16:20		
COC Number		08542425	08542425	08542425		
	UNITS	BAFF24UDPFFHSC1015	BAFF24UDPFFHSC1016	BAFF24UDPFFHSC1023	RDL	QC Batch
Mercury by CVAF						
Total (Wet Wt) Mercury (Hg)	mg/kg	0.105	0.142	0.127	0.0020	B589198
Total Metals by ICPMS						
Total (Wet Wt) Aluminum (Al)	mg/kg	1.77	1.60	1.89	0.50	B587518
Total (Wet Wt) Antimony (Sb)	mg/kg	0.0021	0.0088	0.0044	0.0020	B587518
Total (Wet Wt) Arsenic (As)	mg/kg	3.84	3.42	2.79	0.0050	B587518
Total (Wet Wt) Barium (Ba)	mg/kg	0.016	0.235	0.185	0.010	B587518
Total (Wet Wt) Beryllium (Be)	mg/kg	<0.0020	<0.0020	<0.0020	0.0020	B587518
Total (Wet Wt) Bismuth (Bi)	mg/kg	<0.0013	0.0056	0.0028	0.0013	B587518
Total (Wet Wt) Boron (B)	mg/kg	<0.20	<0.20	<0.20	0.20	B587518
Total (Wet Wt) Cadmium (Cd)	mg/kg	0.0042	0.0216	0.0118	0.0013	B587518
Total (Wet Wt) Calcium (Ca)	mg/kg	138	4410	3540	4.0	B587518
Total (Wet Wt) Chromium (Cr)	mg/kg	<0.025	0.080	0.050	0.025	B587518
Total (Wet Wt) Cobalt (Co)	mg/kg	0.0075	0.0138	0.0128	0.0013	B587518
Total (Wet Wt) Copper (Cu)	mg/kg	0.316	0.418	0.596	0.013	B587518
Total (Wet Wt) Iron (Fe)	mg/kg	5.72	36.5	10.3	0.25	B587518
Total (Wet Wt) Lead (Pb)	mg/kg	0.0072	0.0185	0.0114	0.0013	B587518
Total (Wet Wt) Magnesium (Mg)	mg/kg	291	322	299	0.40	B587518
Total (Wet Wt) Manganese (Mn)	mg/kg	0.153	1.06	0.636	0.010	B587518
Total (Wet Wt) Mercury (Hg)	mg/kg	0.101	0.137	0.125	0.013	B587518
Total (Wet Wt) Molybdenum (Mo)	mg/kg	<0.0080	<0.0080	<0.0080	0.0080	B587518
Total (Wet Wt) Nickel (Ni)	mg/kg	0.010	0.520	0.048	0.010	B587518
Total (Wet Wt) Phosphorus (P)	mg/kg	2190	4850	4260	2.0	B587518
Total (Wet Wt) Potassium (K)	mg/kg	3870	3980	3890	2.5	B587518
Total (Wet Wt) Selenium (Se)	mg/kg	0.485	0.682	0.717	0.010	B587518
Total (Wet Wt) Silver (Ag)	mg/kg	<0.0013	<0.0013	<0.0013	0.0013	B587518
Total (Wet Wt) Sodium (Na)	mg/kg	586	896	710	2.5	B587518
Total (Wet Wt) Strontium (Sr)	mg/kg	0.337	24.7	17.9	0.013	B587518
Total (Wet Wt) Thallium (Tl)	mg/kg	0.00055	0.00118	0.00126	0.00040	B587518
Total (Wet Wt) Tin (Sn)	mg/kg	0.021	0.030	0.025	0.020	B587518
Total (Wet Wt) Titanium (Ti)	mg/kg	0.33	0.59	0.57	0.13	B587518
Total (Wet Wt) Uranium (U)	mg/kg	0.00048	0.00403	0.00418	0.00040	B587518

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C476093
Report Date: 2024/11/12

WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI464	CWI465	CWI466		
Sampling Date		2024/08/04 14:47	2024/08/04 14:56	2024/08/04 16:20		
COC Number		08542425	08542425	08542425		
	UNITS	**BAFF24UDPFFHSC1015**	**BAFF24UDPFFHSC1016**	**BAFF24UDPFFHSC1023**	**RDL**	**QC Batch**
Total (Wet Wt) Vanadium (V)	mg/kg	<0.020	0.023	<0.020	0.020	B587518
Total (Wet Wt) Zinc (Zn)	mg/kg	10.1	24.4	30.6	0.20	B587518
RDL = Reportable Detection Limit						

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI467	CWI468	CWI469		
Sampling Date		2024/08/05 14:52	2024/08/08 16:53	2024/08/08 17:13		
COC Number		08542425	08542425	08542425		
	UNITS	BAFF24UDPFFHSC1034	BAFF24UIPFFHSC1038	BAFF24UIPFFHSC1040	RDL	QC Batch
Mercury by CVAF						
Total (Wet Wt) Mercury (Hg)	mg/kg	0.144	0.147	0.218	0.0020	B589198
Total Metals by ICPMS						
Total (Wet Wt) Aluminum (Al)	mg/kg	1.53	1.59	0.57	0.50	B587518
Total (Wet Wt) Antimony (Sb)	mg/kg	0.0080	0.0020	0.0054	0.0020	B587518
Total (Wet Wt) Arsenic (As)	mg/kg	3.61	2.59	6.03	0.0050	B587518
Total (Wet Wt) Barium (Ba)	mg/kg	0.021	0.034	0.028	0.010	B587518
Total (Wet Wt) Beryllium (Be)	mg/kg	<0.0020	<0.0020	<0.0020	0.0020	B587518
Total (Wet Wt) Bismuth (Bi)	mg/kg	<0.0013	0.0041	0.0048	0.0013	B587518
Total (Wet Wt) Boron (B)	mg/kg	<0.20	<0.20	<0.20	0.20	B587518
Total (Wet Wt) Cadmium (Cd)	mg/kg	0.0163	0.0035	0.0054	0.0013	B587518
Total (Wet Wt) Calcium (Ca)	mg/kg	168	261	125	4.0	B587518
Total (Wet Wt) Chromium (Cr)	mg/kg	0.260	<0.025	<0.025	0.025	B587518
Total (Wet Wt) Cobalt (Co)	mg/kg	0.0144	0.0089	0.0052	0.0013	B587518
Total (Wet Wt) Copper (Cu)	mg/kg	0.680	0.431	0.388	0.013	B587518
Total (Wet Wt) Iron (Fe)	mg/kg	14.5	6.04	5.69	0.25	B587518
Total (Wet Wt) Lead (Pb)	mg/kg	0.0078	0.0034	0.0022	0.0013	B587518
Total (Wet Wt) Magnesium (Mg)	mg/kg	188	239	196	0.40	B587518
Total (Wet Wt) Manganese (Mn)	mg/kg	0.271	0.183	0.110	0.010	B587518
Total (Wet Wt) Mercury (Hg)	mg/kg	0.135	0.144	0.205	0.013	B587518
Total (Wet Wt) Molybdenum (Mo)	mg/kg	<0.0080	<0.0080	<0.0080	0.0080	B587518
Total (Wet Wt) Nickel (Ni)	mg/kg	0.027	0.041	0.021	0.010	B587518
Total (Wet Wt) Phosphorus (P)	mg/kg	2210	2170	2100	2.0	B587518
Total (Wet Wt) Potassium (K)	mg/kg	3600	3760	3760	2.5	B587518
Total (Wet Wt) Selenium (Se)	mg/kg	0.614	0.446	0.570	0.010	B587518
Total (Wet Wt) Silver (Ag)	mg/kg	0.0016	<0.0013	<0.0013	0.0013	B587518
Total (Wet Wt) Sodium (Na)	mg/kg	647	726	731	2.5	B587518
Total (Wet Wt) Strontium (Sr)	mg/kg	0.493	1.45	0.520	0.013	B587518
Total (Wet Wt) Thallium (Tl)	mg/kg	0.00131	0.00077	0.00097	0.00040	B587518
Total (Wet Wt) Tin (Sn)	mg/kg	0.035	0.023	<0.020	0.020	B587518
Total (Wet Wt) Titanium (Ti)	mg/kg	0.31	0.28	0.29	0.13	B587518
Total (Wet Wt) Uranium (U)	mg/kg	<0.00040	<0.00040	<0.00040	0.00040	B587518

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C476093
Report Date: 2024/11/12

WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI467	CWI468	CWI469		
Sampling Date		2024/08/05 14:52	2024/08/08 16:53	2024/08/08 17:13		
COC Number		08542425	08542425	08542425		
	UNITS	**BAFF24UDPFFHSC1034**	**BAFF24UIPFFHSC1038**	**BAFF24UIPFFHSC1040**	**RDL**	**QC Batch**
Total (Wet Wt) Vanadium (V)	mg/kg	<0.020	<0.020	<0.020	0.020	B587518
Total (Wet Wt) Zinc (Zn)	mg/kg	20.3	11.4	13.0	0.20	B587518
RDL = Reportable Detection Limit						

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI470	CWI471	CWI472		
Sampling Date		2024/08/03 17:10	2024/08/03 17:30	2024/08/03 17:39		
COC Number		08542424	08542424	08542424		
	UNITS	BAFF24UKLKFHSC2002	BAFF24UKLKFHSC2004	BAFF24UKLKFHSC2005	RDL	QC Batch
Mercury by CVAF						
Total (Wet Wt) Mercury (Hg)	mg/kg	0.363	0.156	0.104	0.0020	B589198
Total Metals by ICPMS						
Total (Wet Wt) Aluminum (Al)	mg/kg	1.85	1.67	1.39	0.50	B587518
Total (Wet Wt) Antimony (Sb)	mg/kg	0.0039	0.0085	0.0048	0.0020	B587518
Total (Wet Wt) Arsenic (As)	mg/kg	8.42	5.78	1.91	0.0050	B587518
Total (Wet Wt) Barium (Ba)	mg/kg	0.031	0.042	0.051	0.010	B587518
Total (Wet Wt) Beryllium (Be)	mg/kg	<0.0020	<0.0020	<0.0020	0.0020	B587518
Total (Wet Wt) Bismuth (Bi)	mg/kg	<0.0013	<0.0013	<0.0013	0.0013	B587518
Total (Wet Wt) Boron (B)	mg/kg	<0.20	<0.20	<0.20	0.20	B587518
Total (Wet Wt) Cadmium (Cd)	mg/kg	0.0051	0.0044	0.0037	0.0013	B587518
Total (Wet Wt) Calcium (Ca)	mg/kg	236	104	108	4.0	B587518
Total (Wet Wt) Chromium (Cr)	mg/kg	<0.025	0.051	<0.025	0.025	B587518
Total (Wet Wt) Cobalt (Co)	mg/kg	0.0116	0.0221	0.0094	0.0013	B587518
Total (Wet Wt) Copper (Cu)	mg/kg	0.463	0.722	0.367	0.013	B587518
Total (Wet Wt) Iron (Fe)	mg/kg	5.22	12.7	42.5	0.25	B587518
Total (Wet Wt) Lead (Pb)	mg/kg	0.0046	0.0087	0.0077	0.0013	B587518
Total (Wet Wt) Magnesium (Mg)	mg/kg	255	205	230	0.40	B587518
Total (Wet Wt) Manganese (Mn)	mg/kg	0.513	0.159	0.275	0.010	B587518
Total (Wet Wt) Mercury (Hg)	mg/kg	0.360	0.143	0.095	0.013	B587518
Total (Wet Wt) Molybdenum (Mo)	mg/kg	<0.0080	<0.0080	<0.0080	0.0080	B587518
Total (Wet Wt) Nickel (Ni)	mg/kg	0.028	0.032	0.258	0.010	B587518
Total (Wet Wt) Phosphorus (P)	mg/kg	2350	2000	2130	2.0	B587518
Total (Wet Wt) Potassium (K)	mg/kg	3820	3660	3620	2.5	B587518
Total (Wet Wt) Selenium (Se)	mg/kg	0.782	0.504	0.445	0.010	B587518
Total (Wet Wt) Silver (Ag)	mg/kg	<0.0013	<0.0013	<0.0013	0.0013	B587518
Total (Wet Wt) Sodium (Na)	mg/kg	923	1150	829	2.5	B587518
Total (Wet Wt) Strontium (Sr)	mg/kg	1.71	0.623	0.402	0.013	B587518
Total (Wet Wt) Thallium (Tl)	mg/kg	0.00058	0.00107	0.00084	0.00040	B587518
Total (Wet Wt) Tin (Sn)	mg/kg	0.036	0.044	0.024	0.020	B587518
Total (Wet Wt) Titanium (Ti)	mg/kg	0.39	0.31	0.27	0.13	B587518
Total (Wet Wt) Uranium (U)	mg/kg	0.00056	<0.00040	<0.00040	0.00040	B587518

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI470	CWI471	CWI472		
Sampling Date		2024/08/03 17:10	2024/08/03 17:30	2024/08/03 17:39		
COC Number		08542424	08542424	08542424		
	UNITS	**BAFF24UKLKFHSC2002**	**BAFF24UKLKFHSC2004**	**BAFF24UKLKFHSC2005**	**RDL**	**QC Batch**
Total (Wet Wt) Vanadium (V)	mg/kg	0.026	<0.020	<0.020	0.020	B587518
Total (Wet Wt) Zinc (Zn)	mg/kg	32.1	17.3	11.0	0.20	B587518
RDL = Reportable Detection Limit						

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI473	CWI474		CWI475		
Sampling Date		2024/08/09 16:23	2024/08/09 16:49		2024/08/09 17:59		
COC Number		08542424	08542424		08542424		
	UNITS	BAFF24UKLKFHSC2015	BAFF24UKLKFHSC2019	RDL	BAFF24UKLKFHSC2031	RDL	QC Batch
Mercury by CVAF							
Total (Wet Wt) Mercury (Hg)	mg/kg	0.0928	0.0983	0.0020	0.332	0.010	B589198
Total Metals by ICPMS							
Total (Wet Wt) Aluminum (Al)	mg/kg	1.26	0.71	0.50	0.62	0.50	B587518
Total (Wet Wt) Antimony (Sb)	mg/kg	0.0063	0.0030	0.0020	0.0025	0.0020	B587518
Total (Wet Wt) Arsenic (As)	mg/kg	1.98	2.87	0.0050	5.46	0.0050	B587518
Total (Wet Wt) Barium (Ba)	mg/kg	0.099	0.016	0.010	0.041	0.010	B587518
Total (Wet Wt) Beryllium (Be)	mg/kg	<0.0020	<0.0020	0.0020	<0.0020	0.0020	B587518
Total (Wet Wt) Bismuth (Bi)	mg/kg	<0.0013	<0.0013	0.0013	<0.0013	0.0013	B587518
Total (Wet Wt) Boron (B)	mg/kg	<0.20	<0.20	0.20	<0.20	0.20	B587518
Total (Wet Wt) Cadmium (Cd)	mg/kg	0.0086	0.0082	0.0013	0.0122	0.0013	B587518
Total (Wet Wt) Calcium (Ca)	mg/kg	306	141	4.0	117	4.0	B587518
Total (Wet Wt) Chromium (Cr)	mg/kg	0.034	<0.025	0.025	<0.025	0.025	B587518
Total (Wet Wt) Cobalt (Co)	mg/kg	0.0164	0.0128	0.0013	0.0154	0.0013	B587518
Total (Wet Wt) Copper (Cu)	mg/kg	0.441	0.374	0.013	0.393	0.013	B587518
Total (Wet Wt) Iron (Fe)	mg/kg	11.8	5.48	0.25	5.97	0.25	B587518
Total (Wet Wt) Lead (Pb)	mg/kg	0.0098	0.0042	0.0013	0.0040	0.0013	B587518
Total (Wet Wt) Magnesium (Mg)	mg/kg	219	309	0.40	234	0.40	B587518
Total (Wet Wt) Manganese (Mn)	mg/kg	0.357	0.210	0.010	0.193	0.010	B587518
Total (Wet Wt) Mercury (Hg)	mg/kg	0.089	0.091	0.013	0.302	0.013	B587518
Total (Wet Wt) Molybdenum (Mo)	mg/kg	<0.0080	<0.0080	0.0080	<0.0080	0.0080	B587518
Total (Wet Wt) Nickel (Ni)	mg/kg	0.088	0.027	0.010	0.030	0.010	B587518
Total (Wet Wt) Phosphorus (P)	mg/kg	2270	2200	2.0	2220	2.0	B587518
Total (Wet Wt) Potassium (K)	mg/kg	3850	3810	2.5	3720	2.5	B587518
Total (Wet Wt) Selenium (Se)	mg/kg	0.509	0.703	0.010	0.642	0.010	B587518
Total (Wet Wt) Silver (Ag)	mg/kg	<0.0013	<0.0013	0.0013	<0.0013	0.0013	B587518
Total (Wet Wt) Sodium (Na)	mg/kg	781	705	2.5	739	2.5	B587518
Total (Wet Wt) Strontium (Sr)	mg/kg	1.31	0.424	0.013	0.682	0.013	B587518
Total (Wet Wt) Thallium (Tl)	mg/kg	0.00079	0.00050	0.00040	0.00117	0.00040	B587518
Total (Wet Wt) Tin (Sn)	mg/kg	<0.020	<0.020	0.020	<0.020	0.020	B587518
Total (Wet Wt) Titanium (Ti)	mg/kg	0.27	0.31	0.13	0.29	0.13	B587518
Total (Wet Wt) Uranium (U)	mg/kg	0.00049	<0.00040	0.00040	<0.00040	0.00040	B587518

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C476093
Report Date: 2024/11/12

WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI473	CWI474		CWI475		
Sampling Date		2024/08/09 16:23	2024/08/09 16:49		2024/08/09 17:59		
COC Number		08542424	08542424		08542424		
	UNITS	**BAFF24UKLKFHSC2015**	**BAFF24UKLKFHSC2019**	**RDL**	**BAFF24UKLKFHSC2031**	**RDL**	**QC Batch**
Total (Wet Wt) Vanadium (V)	mg/kg	<0.020	<0.020	0.020	<0.020	0.020	B587518
Total (Wet Wt) Zinc (Zn)	mg/kg	15.6	20.1	0.20	34.3	0.20	B587518
RDL = Reportable Detection Limit							

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI476	CWI477	CWI478		
Sampling Date		2024/08/09 18:20	2024/08/16 17:20	2024/08/01 10:41		
COC Number		08542424	08542424	08542426		
	UNITS	BAFF24UKLKFHSC2035	BAFF24UKLKFHSC2037	BAFF23UDPFARCH4001	RDL	QC Batch
Mercury by CVAF						
Total (Wet Wt) Mercury (Hg)	mg/kg	0.0667	0.135	0.0699	0.0020	B589198
Total Metals by ICPMS						
Total (Wet Wt) Aluminum (Al)	mg/kg	0.77	1.21	0.60	0.50	B587518
Total (Wet Wt) Antimony (Sb)	mg/kg	0.0070	0.0066	0.0022	0.0020	B587518
Total (Wet Wt) Arsenic (As)	mg/kg	3.99	3.02	0.992	0.0050	B587518
Total (Wet Wt) Barium (Ba)	mg/kg	0.093	0.022	0.012	0.010	B587518
Total (Wet Wt) Beryllium (Be)	mg/kg	<0.0020	<0.0020	<0.0020	0.0020	B587518
Total (Wet Wt) Bismuth (Bi)	mg/kg	<0.0013	<0.0013	<0.0013	0.0013	B587518
Total (Wet Wt) Boron (B)	mg/kg	<0.20	<0.20	<0.20	0.20	B587518
Total (Wet Wt) Cadmium (Cd)	mg/kg	0.0089	0.0072	0.0069	0.0013	B587518
Total (Wet Wt) Calcium (Ca)	mg/kg	111	129	251	4.0	B587518
Total (Wet Wt) Chromium (Cr)	mg/kg	<0.025	0.148	<0.025	0.025	B587518
Total (Wet Wt) Cobalt (Co)	mg/kg	0.0146	0.0068	0.0067	0.0013	B587518
Total (Wet Wt) Copper (Cu)	mg/kg	0.384	0.315	0.225	0.013	B587518
Total (Wet Wt) Iron (Fe)	mg/kg	6.47	7.06	4.25	0.25	B587518
Total (Wet Wt) Lead (Pb)	mg/kg	0.0123	0.0056	0.0029	0.0013	B587518
Total (Wet Wt) Magnesium (Mg)	mg/kg	272	225	339	0.40	B587518
Total (Wet Wt) Manganese (Mn)	mg/kg	0.265	0.174	0.095	0.010	B587518
Total (Wet Wt) Mercury (Hg)	mg/kg	0.065	0.124	0.065	0.013	B587518
Total (Wet Wt) Molybdenum (Mo)	mg/kg	<0.0080	<0.0080	<0.0080	0.0080	B587518
Total (Wet Wt) Nickel (Ni)	mg/kg	0.011	0.013	0.049	0.010	B587518
Total (Wet Wt) Phosphorus (P)	mg/kg	2220	2070	3360	2.0	B587518
Total (Wet Wt) Potassium (K)	mg/kg	3550	3490	4990	2.5	B587518
Total (Wet Wt) Selenium (Se)	mg/kg	0.741	0.567	0.483	0.010	B587518
Total (Wet Wt) Silver (Ag)	mg/kg	<0.0013	<0.0013	<0.0013	0.0013	B587518
Total (Wet Wt) Sodium (Na)	mg/kg	709	675	305	2.5	B587518
Total (Wet Wt) Strontium (Sr)	mg/kg	0.419	0.534	0.261	0.013	B587518
Total (Wet Wt) Thallium (Tl)	mg/kg	0.00058	0.00070	0.00347	0.00040	B587518
Total (Wet Wt) Tin (Sn)	mg/kg	<0.020	<0.020	<0.020	0.020	B587518
Total (Wet Wt) Titanium (Ti)	mg/kg	0.27	0.28	0.44	0.13	B587518
Total (Wet Wt) Uranium (U)	mg/kg	<0.00040	<0.00040	<0.00040	0.00040	B587518

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI476	CWI477	CWI478		
Sampling Date		2024/08/09 18:20	2024/08/16 17:20	2024/08/01 10:41		
COC Number		08542424	08542424	08542426		
	UNITS	**BAFF24UKLKFHSC2035**	**BAFF24UKLKFHSC2037**	**BAFF23UDPFARCH4001**	**RDL**	**QC Batch**
Total (Wet Wt) Vanadium (V)	mg/kg	<0.020	<0.020	<0.020	0.020	B587518
Total (Wet Wt) Zinc (Zn)	mg/kg	13.4	12.2	5.74	0.20	B587518
RDL = Reportable Detection Limit						

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI479	CWI480		CWI481		
Sampling Date		2024/08/07 12:54	2024/08/08 11:12		2024/08/08 11:12		
COC Number		08542426	08542426		08542426		
	UNITS	BAFF24UDPFARCH4002	BAFF24UIPFARCH4003	RDL	BAFF24UIPFARCH4004	RDL	QC Batch
Mercury by CVAF							
Total (Wet Wt) Mercury (Hg)	mg/kg	0.0531	0.0419	0.0020	0.0541	0.0010	B589198
Total Metals by ICPMS							
Total (Wet Wt) Aluminum (Al)	mg/kg	1.61	0.82	0.50	0.84	0.50	B587518
Total (Wet Wt) Antimony (Sb)	mg/kg	0.0068	0.0041	0.0020	0.0028	0.0020	B587518
Total (Wet Wt) Arsenic (As)	mg/kg	0.953	1.00	0.0050	1.71	0.0050	B587518
Total (Wet Wt) Barium (Ba)	mg/kg	0.033	0.087	0.010	<0.010	0.010	B587518
Total (Wet Wt) Beryllium (Be)	mg/kg	<0.0020	<0.0020	0.0020	<0.0020	0.0020	B587518
Total (Wet Wt) Bismuth (Bi)	mg/kg	<0.0013	<0.0013	0.0013	<0.0013	0.0013	B587518
Total (Wet Wt) Boron (B)	mg/kg	<0.20	<0.20	0.20	<0.20	0.20	B587518
Total (Wet Wt) Cadmium (Cd)	mg/kg	0.0056	0.0053	0.0013	0.0055	0.0013	B587518
Total (Wet Wt) Calcium (Ca)	mg/kg	252	110	4.0	79.2	4.0	B587518
Total (Wet Wt) Chromium (Cr)	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	B587518
Total (Wet Wt) Cobalt (Co)	mg/kg	0.0070	0.0056	0.0013	0.0059	0.0013	B587518
Total (Wet Wt) Copper (Cu)	mg/kg	0.752	0.393	0.013	0.958	0.013	B587518
Total (Wet Wt) Iron (Fe)	mg/kg	32.9	5.06	0.25	7.29	0.25	B587518
Total (Wet Wt) Lead (Pb)	mg/kg	0.0239	0.0044	0.0013	0.0039	0.0013	B587518
Total (Wet Wt) Magnesium (Mg)	mg/kg	282	318	0.40	287	0.40	B587518
Total (Wet Wt) Manganese (Mn)	mg/kg	0.108	0.107	0.010	0.114	0.010	B587518
Total (Wet Wt) Mercury (Hg)	mg/kg	0.052	0.042	0.013	0.052	0.013	B587518
Total (Wet Wt) Molybdenum (Mo)	mg/kg	<0.0080	<0.0080	0.0080	<0.0080	0.0080	B587518
Total (Wet Wt) Nickel (Ni)	mg/kg	0.049	0.065	0.010	0.051	0.010	B587518
Total (Wet Wt) Phosphorus (P)	mg/kg	3290	3170	2.0	2930	2.0	B587518
Total (Wet Wt) Potassium (K)	mg/kg	4550	4720	2.5	4150	2.5	B587518
Total (Wet Wt) Selenium (Se)	mg/kg	0.433	0.369	0.010	0.468	0.010	B587518
Total (Wet Wt) Silver (Ag)	mg/kg	<0.0013	<0.0013	0.0013	<0.0013	0.0013	B587518
Total (Wet Wt) Sodium (Na)	mg/kg	455	419	2.5	401	2.5	B587518
Total (Wet Wt) Strontium (Sr)	mg/kg	0.366	0.285	0.013	0.148	0.013	B587518
Total (Wet Wt) Thallium (Tl)	mg/kg	0.00310	0.00195	0.00040	0.00237	0.00040	B587518
Total (Wet Wt) Tin (Sn)	mg/kg	<0.020	<0.020	0.020	<0.020	0.020	B587518
Total (Wet Wt) Titanium (Ti)	mg/kg	0.48	0.41	0.13	0.41	0.13	B587518
Total (Wet Wt) Uranium (U)	mg/kg	<0.00040	<0.00040	0.00040	<0.00040	0.00040	B587518

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C476093
Report Date: 2024/11/12

WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI479	CWI480		CWI481		
Sampling Date		2024/08/07 12:54	2024/08/08 11:12		2024/08/08 11:12		
COC Number		08542426	08542426		08542426		
	UNITS	**BAFF24UDPFARCH4002**	**BAFF24UIPFARCH4003**	**RDL**	**BAFF24UIPFARCH4004**	**RDL**	**QC Batch**
Total (Wet Wt) Vanadium (V)	mg/kg	<0.020	<0.020	0.020	<0.020	0.020	B587518
Total (Wet Wt) Zinc (Zn)	mg/kg	6.28	6.91	0.20	6.88	0.20	B587518
RDL = Reportable Detection Limit							

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI482	CWI483	CWI484		
Sampling Date		2024/08/08 11:12	2024/08/11 11:47	2024/08/11 11:47		
COC Number		08542426	08542426	08542426		
	UNITS	BAFF24UIPFARCH4005	BAFF24UIPFARCH4008	BAFF24UIPFARCH4010	RDL	QC Batch
Mercury by CVAF						
Total (Wet Wt) Mercury (Hg)	mg/kg	0.0483	0.0423	0.0335	0.0020	B589217
Total Metals by ICPMS						
Total (Wet Wt) Aluminum (Al)	mg/kg	0.58	1.20	32.4	0.50	B588932
Total (Wet Wt) Antimony (Sb)	mg/kg	0.0031	0.0038	<0.0020	0.0020	B588932
Total (Wet Wt) Arsenic (As)	mg/kg	1.19	0.886	0.515	0.0050	B588932
Total (Wet Wt) Barium (Ba)	mg/kg	<0.010	<0.010	<0.010	0.010	B588932
Total (Wet Wt) Beryllium (Be)	mg/kg	<0.0020	<0.0020	<0.0020	0.0020	B588932
Total (Wet Wt) Bismuth (Bi)	mg/kg	<0.0013	<0.0013	<0.0013	0.0013	B588932
Total (Wet Wt) Boron (B)	mg/kg	<0.20	<0.20	<0.20	0.20	B588932
Total (Wet Wt) Cadmium (Cd)	mg/kg	0.0047	0.0033	0.0025	0.0013	B588932
Total (Wet Wt) Calcium (Ca)	mg/kg	75.2	83.0	80.9	4.0	B588932
Total (Wet Wt) Chromium (Cr)	mg/kg	<0.025	0.233	<0.025	0.025	B588932
Total (Wet Wt) Cobalt (Co)	mg/kg	0.0047	0.0039	0.0047	0.0013	B588932
Total (Wet Wt) Copper (Cu)	mg/kg	0.536	0.306	0.486	0.013	B588932
Total (Wet Wt) Iron (Fe)	mg/kg	4.06	5.69	2.35	0.25	B588932
Total (Wet Wt) Lead (Pb)	mg/kg	0.0017	0.0028	0.0137	0.0013	B588932
Total (Wet Wt) Magnesium (Mg)	mg/kg	264	297	337	0.40	B588932
Total (Wet Wt) Manganese (Mn)	mg/kg	0.068	0.087	0.125	0.010	B588932
Total (Wet Wt) Mercury (Hg)	mg/kg	0.039	0.035	0.027	0.013	B588932
Total (Wet Wt) Molybdenum (Mo)	mg/kg	<0.0080	0.0093	<0.0080	0.0080	B588932
Total (Wet Wt) Nickel (Ni)	mg/kg	<0.010	0.075	<0.010	0.010	B588932
Total (Wet Wt) Phosphorus (P)	mg/kg	2740	2900	3150	2.0	B588932
Total (Wet Wt) Potassium (K)	mg/kg	3910	4590	4960	2.5	B588932
Total (Wet Wt) Selenium (Se)	mg/kg	0.308	0.358	0.304	0.010	B588932
Total (Wet Wt) Silver (Ag)	mg/kg	<0.0013	<0.0013	<0.0013	0.0013	B588932
Total (Wet Wt) Sodium (Na)	mg/kg	431	386	315	2.5	B588932
Total (Wet Wt) Strontium (Sr)	mg/kg	0.129	0.134	0.145	0.013	B588932
Total (Wet Wt) Thallium (Tl)	mg/kg	0.00147	0.00187	0.00192	0.00040	B588932
Total (Wet Wt) Tin (Sn)	mg/kg	<0.020	<0.020	<0.020	0.020	B588932
Total (Wet Wt) Titanium (Ti)	mg/kg	0.37	0.37	0.36	0.13	B588932
Total (Wet Wt) Uranium (U)	mg/kg	<0.00040	<0.00040	<0.00040	0.00040	B588932

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C476093
Report Date: 2024/11/12

WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI482	CWI483	CWI484		
Sampling Date		2024/08/08 11:12	2024/08/11 11:47	2024/08/11 11:47		
COC Number		08542426	08542426	08542426		
	UNITS	**BAFF24UIPFARCH4005**	**BAFF24UIPFARCH4008**	**BAFF24UIPFARCH4010**	**RDL**	**QC Batch**
Total (Wet Wt) Vanadium (V)	mg/kg	<0.020	<0.020	<0.020	0.020	B588932
Total (Wet Wt) Zinc (Zn)	mg/kg	4.19	4.02	5.00	0.20	B588932
RDL = Reportable Detection Limit						

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ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI485		
Sampling Date		2024/08/17 12:35		
COC Number		08542426		
	UNITS	BAFF24UIPFARCH4012	RDL	QC Batch
Mercury by CVAF				
Total (Wet Wt) Mercury (Hg)	mg/kg	0.142	0.0010	B589217
Total Metals by ICPMS				
Total (Wet Wt) Aluminum (Al)	mg/kg	1.43	0.50	B588932
Total (Wet Wt) Antimony (Sb)	mg/kg	0.0045	0.0020	B588932
Total (Wet Wt) Arsenic (As)	mg/kg	0.764	0.0050	B588932
Total (Wet Wt) Barium (Ba)	mg/kg	0.013	0.010	B588932
Total (Wet Wt) Beryllium (Be)	mg/kg	<0.0020	0.0020	B588932
Total (Wet Wt) Bismuth (Bi)	mg/kg	<0.0013	0.0013	B588932
Total (Wet Wt) Boron (B)	mg/kg	<0.20	0.20	B588932
Total (Wet Wt) Cadmium (Cd)	mg/kg	0.0228	0.0013	B588932
Total (Wet Wt) Calcium (Ca)	mg/kg	111	4.0	B588932
Total (Wet Wt) Chromium (Cr)	mg/kg	<0.025	0.025	B588932
Total (Wet Wt) Cobalt (Co)	mg/kg	0.0058	0.0013	B588932
Total (Wet Wt) Copper (Cu)	mg/kg	0.282	0.013	B588932
Total (Wet Wt) Iron (Fe)	mg/kg	5.99	0.25	B588932
Total (Wet Wt) Lead (Pb)	mg/kg	0.0063	0.0013	B588932
Total (Wet Wt) Magnesium (Mg)	mg/kg	317	0.40	B588932
Total (Wet Wt) Manganese (Mn)	mg/kg	0.096	0.010	B588932
Total (Wet Wt) Mercury (Hg)	mg/kg	0.115	0.013	B588932
Total (Wet Wt) Molybdenum (Mo)	mg/kg	<0.0080	0.0080	B588932
Total (Wet Wt) Nickel (Ni)	mg/kg	0.012	0.010	B588932
Total (Wet Wt) Phosphorus (P)	mg/kg	3050	2.0	B588932
Total (Wet Wt) Potassium (K)	mg/kg	4650	2.5	B588932
Total (Wet Wt) Selenium (Se)	mg/kg	0.448	0.010	B588932
Total (Wet Wt) Silver (Ag)	mg/kg	<0.0013	0.0013	B588932
Total (Wet Wt) Sodium (Na)	mg/kg	394	2.5	B588932
Total (Wet Wt) Strontium (Sr)	mg/kg	0.137	0.013	B588932
Total (Wet Wt) Thallium (Tl)	mg/kg	0.00476	0.00040	B588932
Total (Wet Wt) Tin (Sn)	mg/kg	<0.020	0.020	B588932
Total (Wet Wt) Titanium (Ti)	mg/kg	0.51	0.13	B588932
Total (Wet Wt) Uranium (U)	mg/kg	<0.00040	0.00040	B588932
RDL = Reportable Detection Limit				

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WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		CWI485		
Sampling Date		2024/08/17 12:35		
COC Number		08542426		
	UNITS	**BAFF24UIPFARCH4012**	**RDL**	**QC Batch**
Total (Wet Wt) Vanadium (V)	mg/kg	<0.020	0.020	B588932
Total (Wet Wt) Zinc (Zn)	mg/kg	4.54	0.20	B588932
RDL = Reportable Detection Limit				

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PHYSICAL TESTING (TISSUE)

Bureau Veritas ID		CWI462	CWI463	CWI464	CWI465		
Sampling Date		2024/08/04 12:10	2024/08/04 14:18	2024/08/04 14:47	2024/08/04 14:56		
COC Number		08542425	08542425	08542425	08542425		
	UNITS	BAFF24UDPFFHSC1004	BAFF24UDPFFHSC1012	BAFF24UDPFFHSC1015	BAFF24UDPFFHSC1016	RDL	QC Batch
Physical Properties							
Sample Wet Weight	%	0.28	0.32	0.23	0.24	N/A	B587519
Moisture	%	77	80	78	77	0.30	B587519

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID		CWI466	CWI467	CWI468	CWI469		
Sampling Date		2024/08/04 16:20	2024/08/05 14:52	2024/08/08 16:53	2024/08/08 17:13		
COC Number		08542425	08542425	08542425	08542425		
	UNITS	BAFF24UDPFFHSC1023	BAFF24UDPFFHSC1034	BAFF24UIPFFHSC1038	BAFF24UIPFFHSC1040	RDL	QC Batch
Physical Properties							
Sample Wet Weight	%	0.33	0.26	0.38	0.38	N/A	B587519
Moisture	%	73	79	81	76	0.30	B587519

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID		CWI470	CWI471	CWI472	CWI473		
Sampling Date		2024/08/03 17:10	2024/08/03 17:30	2024/08/03 17:39	2024/08/09 16:23		
COC Number		08542424	08542424	08542424	08542424		
	UNITS	BAFF24UKLKFHSC2002	BAFF24UKLKFHSC2004	BAFF24UKLKFHSC2005	BAFF24UKLKFHSC2015	RDL	QC Batch
Physical Properties							
Sample Wet Weight	%	0.28	0.21	0.25	0.31	N/A	B587519
Moisture	%	79	88	79	76	0.30	B587519

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID		CWI474	CWI475	CWI476	CWI477		
Sampling Date		2024/08/09 16:49	2024/08/09 17:59	2024/08/09 18:20	2024/08/16 17:20		
COC Number		08542424	08542424	08542424	08542424		
	UNITS	BAFF24UKLKFHSC2019	BAFF24UKLKFHSC2031	BAFF24UKLKFHSC2035	BAFF24UKLKFHSC2037	RDL	QC Batch
Physical Properties							
Sample Wet Weight	%	0.34	0.36	0.28	0.26	N/A	B587519
Moisture	%	76	75	74	75	0.30	B587519

RDL = Reportable Detection Limit
N/A = Not Applicable

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PHYSICAL TESTING (TISSUE)

Bureau Veritas ID		CWI478	CWI479	CWI480		
Sampling Date		2024/08/01 10:41	2024/08/07 12:54	2024/08/08 11:12		
COC Number		08542426	08542426	08542426		
	UNITS	BAFF23UDPFARCH4001	BAFF24UDPFARCH4002	BAFF24UIPFARCH4003	RDL	QC Batch
Physical Properties						
Sample Wet Weight	%	0.31	0.27	0.22	N/A	B587519
Moisture	%	73	70	72	0.30	B587519

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID		CWI481		CWI482	CWI483		
Sampling Date		2024/08/08 11:12		2024/08/08 11:12	2024/08/11 11:47		
COC Number		08542426		08542426	08542426		
	UNITS	BAFF24UIPFARCH4004	QC Batch	BAFF24UIPFARCH4005	BAFF24UIPFARCH4008	RDL	QC Batch
Physical Properties							
Sample Wet Weight	%	0.21	B587519	0.25	0.25	N/A	B588976
Moisture	%	66	B587519	64	71	0.30	B588976

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID		CWI484	CWI485		
Sampling Date		2024/08/11 11:47	2024/08/17 12:35		
COC Number		08542426	08542426		
	UNITS	BAFF24UIPFARCH4010	BAFF24UIPFARCH4012	RDL	QC Batch
Physical Properties					
Sample Wet Weight	%	0.27	0.29	N/A	B588976
Moisture	%	73	73	0.30	B588976

RDL = Reportable Detection Limit
N/A = Not Applicable

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GENERAL COMMENTS

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
B587518	MEM	QC Standard	Total (Wet Wt) Antimony (Sb)	2024/11/03		98	%	N/A
			Total (Wet Wt) Arsenic (As)	2024/11/03		88	%	N/A
			Total (Wet Wt) Cadmium (Cd)	2024/11/03		90	%	N/A
			Total (Wet Wt) Calcium (Ca)	2024/11/03		91	%	N/A
			Total (Wet Wt) Cobalt (Co)	2024/11/03		85	%	N/A
			Total (Wet Wt) Copper (Cu)	2024/11/03		90	%	N/A
			Total (Wet Wt) Iron (Fe)	2024/11/03		95	%	N/A
			Total (Wet Wt) Lead (Pb)	2024/11/03		89	%	N/A
			Total (Wet Wt) Manganese (Mn)	2024/11/03		90	%	N/A
			Total (Wet Wt) Mercury (Hg)	2024/11/03		78	%	N/A
			Total (Wet Wt) Molybdenum (Mo)	2024/11/03		88	%	N/A
			Total (Wet Wt) Phosphorus (P)	2024/11/03		96	%	N/A
			Total (Wet Wt) Potassium (K)	2024/11/03		97	%	N/A
			Total (Wet Wt) Selenium (Se)	2024/11/03		84	%	N/A
			Total (Wet Wt) Silver (Ag)	2024/11/03		87	%	N/A
			Total (Wet Wt) Sodium (Na)	2024/11/03		99	%	N/A
			Total (Wet Wt) Strontium (Sr)	2024/11/03		90	%	N/A
			Total (Wet Wt) Thallium (Tl)	2024/11/03		93	%	N/A
			Total (Wet Wt) Tin (Sn)	2024/11/03		77	%	N/A
			Total (Wet Wt) Uranium (U)	2024/11/03		92	%	N/A
			Total (Wet Wt) Vanadium (V)	2024/11/03		79	%	N/A
			Total (Wet Wt) Zinc (Zn)	2024/11/03		90	%	N/A
B587518	MEM	Spiked Blank	Total (Wet Wt) Aluminum (Al)	2024/11/03		104	%	80 - 120
			Total (Wet Wt) Antimony (Sb)	2024/11/03		95	%	80 - 120
			Total (Wet Wt) Arsenic (As)	2024/11/03		101	%	80 - 120
			Total (Wet Wt) Barium (Ba)	2024/11/03		96	%	80 - 120
			Total (Wet Wt) Beryllium (Be)	2024/11/03		95	%	80 - 120
			Total (Wet Wt) Bismuth (Bi)	2024/11/03		96	%	80 - 120
			Total (Wet Wt) Boron (B)	2024/11/03		100	%	80 - 120
			Total (Wet Wt) Cadmium (Cd)	2024/11/03		95	%	80 - 120
			Total (Wet Wt) Calcium (Ca)	2024/11/03		101	%	80 - 120
			Total (Wet Wt) Chromium (Cr)	2024/11/03		98	%	80 - 120
			Total (Wet Wt) Cobalt (Co)	2024/11/03		98	%	80 - 120
			Total (Wet Wt) Copper (Cu)	2024/11/03		96	%	80 - 120
			Total (Wet Wt) Iron (Fe)	2024/11/03		101	%	80 - 120
			Total (Wet Wt) Lead (Pb)	2024/11/03		93	%	80 - 120
			Total (Wet Wt) Magnesium (Mg)	2024/11/03		101	%	80 - 120
			Total (Wet Wt) Manganese (Mn)	2024/11/03		98	%	80 - 120
			Total (Wet Wt) Mercury (Hg)	2024/11/03		103	%	80 - 120
			Total (Wet Wt) Molybdenum (Mo)	2024/11/03		100	%	80 - 120
			Total (Wet Wt) Nickel (Ni)	2024/11/03		97	%	80 - 120
			Total (Wet Wt) Phosphorus (P)	2024/11/03		105	%	80 - 120
			Total (Wet Wt) Potassium (K)	2024/11/03		102	%	80 - 120
			Total (Wet Wt) Selenium (Se)	2024/11/03		99	%	80 - 120
			Total (Wet Wt) Silver (Ag)	2024/11/03		97	%	80 - 120
			Total (Wet Wt) Sodium (Na)	2024/11/03		101	%	80 - 120
			Total (Wet Wt) Strontium (Sr)	2024/11/03		95	%	80 - 120
			Total (Wet Wt) Thallium (Tl)	2024/11/03		95	%	80 - 120
			Total (Wet Wt) Tin (Sn)	2024/11/03		98	%	80 - 120
			Total (Wet Wt) Titanium (Ti)	2024/11/03		101	%	80 - 120
			Total (Wet Wt) Uranium (U)	2024/11/03		97	%	80 - 120
			Total (Wet Wt) Vanadium (V)	2024/11/03		98	%	80 - 120
			Total (Wet Wt) Zinc (Zn)	2024/11/03		97	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
B587518	MEM	Method Blank	Total (Wet Wt) Aluminum (Al)	2024/11/03	<0.50		mg/kg	
			Total (Wet Wt) Antimony (Sb)	2024/11/03	<0.0020		mg/kg	
			Total (Wet Wt) Arsenic (As)	2024/11/03	<0.0050		mg/kg	
			Total (Wet Wt) Barium (Ba)	2024/11/03	<0.010		mg/kg	
			Total (Wet Wt) Beryllium (Be)	2024/11/03	<0.0020		mg/kg	
			Total (Wet Wt) Bismuth (Bi)	2024/11/03	<0.0013		mg/kg	
			Total (Wet Wt) Boron (B)	2024/11/03	<0.20		mg/kg	
			Total (Wet Wt) Cadmium (Cd)	2024/11/03	<0.0013		mg/kg	
			Total (Wet Wt) Calcium (Ca)	2024/11/03	<4.0		mg/kg	
			Total (Wet Wt) Chromium (Cr)	2024/11/03	<0.025		mg/kg	
			Total (Wet Wt) Cobalt (Co)	2024/11/03	<0.0013		mg/kg	
			Total (Wet Wt) Copper (Cu)	2024/11/03	<0.013		mg/kg	
			Total (Wet Wt) Iron (Fe)	2024/11/03	<0.25		mg/kg	
			Total (Wet Wt) Lead (Pb)	2024/11/03	<0.0013		mg/kg	
			Total (Wet Wt) Magnesium (Mg)	2024/11/03	<0.40		mg/kg	
			Total (Wet Wt) Manganese (Mn)	2024/11/03	<0.010		mg/kg	
			Total (Wet Wt) Mercury (Hg)	2024/11/03	<0.013		mg/kg	
			Total (Wet Wt) Molybdenum (Mo)	2024/11/03	<0.0080		mg/kg	
			Total (Wet Wt) Nickel (Ni)	2024/11/03	<0.010		mg/kg	
			Total (Wet Wt) Phosphorus (P)	2024/11/03	<2.0		mg/kg	
			Total (Wet Wt) Potassium (K)	2024/11/03	<2.5		mg/kg	
			Total (Wet Wt) Selenium (Se)	2024/11/03	<0.010		mg/kg	
			Total (Wet Wt) Silver (Ag)	2024/11/03	<0.0013		mg/kg	
			Total (Wet Wt) Sodium (Na)	2024/11/03	<2.5		mg/kg	
			Total (Wet Wt) Strontium (Sr)	2024/11/03	<0.013		mg/kg	
			Total (Wet Wt) Thallium (Tl)	2024/11/03	<0.00040		mg/kg	
			Total (Wet Wt) Tin (Sn)	2024/11/03	<0.020		mg/kg	
			Total (Wet Wt) Titanium (Ti)	2024/11/03	<0.13		mg/kg	
			Total (Wet Wt) Uranium (U)	2024/11/03	<0.00040		mg/kg	
			Total (Wet Wt) Vanadium (V)	2024/11/03	<0.020		mg/kg	
			Total (Wet Wt) Zinc (Zn)	2024/11/03	<0.20		mg/kg	
B587518	MEM	RPD [CWI462-01]	Total (Wet Wt) Aluminum (Al)	2024/11/03	16		%	40
			Total (Wet Wt) Antimony (Sb)	2024/11/03	22		%	40
			Total (Wet Wt) Arsenic (As)	2024/11/03	9.1		%	40
			Total (Wet Wt) Barium (Ba)	2024/11/03	24		%	40
			Total (Wet Wt) Beryllium (Be)	2024/11/03	NC		%	40
			Total (Wet Wt) Bismuth (Bi)	2024/11/03	9.5		%	40
			Total (Wet Wt) Boron (B)	2024/11/03	NC		%	40
			Total (Wet Wt) Cadmium (Cd)	2024/11/03	5.9		%	40
			Total (Wet Wt) Calcium (Ca)	2024/11/03	3.7		%	60
			Total (Wet Wt) Chromium (Cr)	2024/11/03	NC		%	40
			Total (Wet Wt) Cobalt (Co)	2024/11/03	2.5		%	40
			Total (Wet Wt) Copper (Cu)	2024/11/03	6.4		%	40
			Total (Wet Wt) Iron (Fe)	2024/11/03	4.7		%	40
			Total (Wet Wt) Lead (Pb)	2024/11/03	20		%	40
			Total (Wet Wt) Magnesium (Mg)	2024/11/03	6.4		%	40
			Total (Wet Wt) Manganese (Mn)	2024/11/03	5.9		%	40
			Total (Wet Wt) Mercury (Hg)	2024/11/03	8.5		%	40
			Total (Wet Wt) Molybdenum (Mo)	2024/11/03	NC		%	40
			Total (Wet Wt) Nickel (Ni)	2024/11/03	8.2		%	40
			Total (Wet Wt) Phosphorus (P)	2024/11/03	8.1		%	40
			Total (Wet Wt) Potassium (K)	2024/11/03	4.4		%	40
			Total (Wet Wt) Selenium (Se)	2024/11/03	7.6		%	40

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total (Wet Wt) Silver (Ag)	2024/11/03	NC		%	40
			Total (Wet Wt) Sodium (Na)	2024/11/03	5.1		%	40
			Total (Wet Wt) Strontium (Sr)	2024/11/03	5.1		%	60
			Total (Wet Wt) Thallium (Tl)	2024/11/03	0.95		%	40
			Total (Wet Wt) Tin (Sn)	2024/11/03	NC		%	40
			Total (Wet Wt) Titanium (Ti)	2024/11/03	0.33		%	40
			Total (Wet Wt) Uranium (U)	2024/11/03	NC		%	40
			Total (Wet Wt) Vanadium (V)	2024/11/03	NC		%	40
			Total (Wet Wt) Zinc (Zn)	2024/11/03	5.7		%	40
B587519	CG5	RPD [CWI462-01]	Sample Wet Weight	2024/10/31	3.8		%	N/A
			Moisture	2024/10/31	1.2		%	20
B588932	MEM	QC Standard	Total (Wet Wt) Antimony (Sb)	2024/11/03		136 (1)	%	75 - 125
			Total (Wet Wt) Arsenic (As)	2024/11/03		113	%	75 - 125
			Total (Wet Wt) Cadmium (Cd)	2024/11/03		115	%	75 - 125
			Total (Wet Wt) Calcium (Ca)	2024/11/03		117	%	75 - 125
			Total (Wet Wt) Cobalt (Co)	2024/11/03		114	%	75 - 125
			Total (Wet Wt) Copper (Cu)	2024/11/03		117	%	75 - 125
			Total (Wet Wt) Iron (Fe)	2024/11/03		122	%	75 - 125
			Total (Wet Wt) Lead (Pb)	2024/11/03		112	%	75 - 125
			Total (Wet Wt) Manganese (Mn)	2024/11/03		118	%	75 - 125
			Total (Wet Wt) Mercury (Hg)	2024/11/03		106	%	59 - 141
			Total (Wet Wt) Molybdenum (Mo)	2024/11/03		119	%	75 - 125
			Total (Wet Wt) Phosphorus (P)	2024/11/03		118	%	75 - 125
			Total (Wet Wt) Potassium (K)	2024/11/03		126 (1)	%	75 - 125
			Total (Wet Wt) Selenium (Se)	2024/11/03		112	%	75 - 125
			Total (Wet Wt) Silver (Ag)	2024/11/03		114	%	75 - 125
			Total (Wet Wt) Sodium (Na)	2024/11/03		127 (1)	%	75 - 125
			Total (Wet Wt) Strontium (Sr)	2024/11/03		117	%	75 - 125
			Total (Wet Wt) Thallium (Tl)	2024/11/03		109	%	75 - 125
			Total (Wet Wt) Tin (Sn)	2024/11/03		138 (1)	%	75 - 125
			Total (Wet Wt) Uranium (U)	2024/11/03		119	%	75 - 125
			Total (Wet Wt) Vanadium (V)	2024/11/03		108	%	75 - 125
			Total (Wet Wt) Zinc (Zn)	2024/11/03		118	%	75 - 125
B588932	MEM	Spiked Blank	Total (Wet Wt) Aluminum (Al)	2024/11/03		101	%	80 - 120
			Total (Wet Wt) Antimony (Sb)	2024/11/03		99	%	80 - 120
			Total (Wet Wt) Arsenic (As)	2024/11/03		98	%	80 - 120
			Total (Wet Wt) Barium (Ba)	2024/11/03		97	%	80 - 120
			Total (Wet Wt) Beryllium (Be)	2024/11/03		94	%	80 - 120
			Total (Wet Wt) Bismuth (Bi)	2024/11/03		96	%	80 - 120
			Total (Wet Wt) Boron (B)	2024/11/03		98	%	80 - 120
			Total (Wet Wt) Cadmium (Cd)	2024/11/03		95	%	80 - 120
			Total (Wet Wt) Calcium (Ca)	2024/11/03		102	%	80 - 120
			Total (Wet Wt) Chromium (Cr)	2024/11/03		96	%	80 - 120
			Total (Wet Wt) Cobalt (Co)	2024/11/03		96	%	80 - 120
			Total (Wet Wt) Copper (Cu)	2024/11/03		94	%	80 - 120
			Total (Wet Wt) Iron (Fe)	2024/11/03		101	%	80 - 120
			Total (Wet Wt) Lead (Pb)	2024/11/03		93	%	80 - 120
			Total (Wet Wt) Magnesium (Mg)	2024/11/03		99	%	80 - 120
			Total (Wet Wt) Manganese (Mn)	2024/11/03		96	%	80 - 120
			Total (Wet Wt) Mercury (Hg)	2024/11/03		104	%	80 - 120
			Total (Wet Wt) Molybdenum (Mo)	2024/11/03		104	%	80 - 120
			Total (Wet Wt) Nickel (Ni)	2024/11/03		95	%	80 - 120
			Total (Wet Wt) Phosphorus (P)	2024/11/03		102	%	80 - 120

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total (Wet Wt) Potassium (K)	2024/11/03		98	%	80 - 120
			Total (Wet Wt) Selenium (Se)	2024/11/03		95	%	80 - 120
			Total (Wet Wt) Silver (Ag)	2024/11/03		96	%	80 - 120
			Total (Wet Wt) Sodium (Na)	2024/11/03		99	%	80 - 120
			Total (Wet Wt) Strontium (Sr)	2024/11/03		96	%	80 - 120
			Total (Wet Wt) Thallium (Tl)	2024/11/03		96	%	80 - 120
			Total (Wet Wt) Tin (Sn)	2024/11/03		97	%	80 - 120
			Total (Wet Wt) Titanium (Ti)	2024/11/03		97	%	80 - 120
			Total (Wet Wt) Uranium (U)	2024/11/03		96	%	80 - 120
			Total (Wet Wt) Vanadium (V)	2024/11/03		95	%	80 - 120
			Total (Wet Wt) Zinc (Zn)	2024/11/03		97	%	80 - 120
B588932	MEM	Method Blank	Total (Wet Wt) Aluminum (Al)	2024/11/03	<0.50		mg/kg	
			Total (Wet Wt) Antimony (Sb)	2024/11/03	<0.0020		mg/kg	
			Total (Wet Wt) Arsenic (As)	2024/11/03	<0.0050		mg/kg	
			Total (Wet Wt) Barium (Ba)	2024/11/03	<0.010		mg/kg	
			Total (Wet Wt) Beryllium (Be)	2024/11/03	<0.0020		mg/kg	
			Total (Wet Wt) Bismuth (Bi)	2024/11/03	<0.0013		mg/kg	
			Total (Wet Wt) Boron (B)	2024/11/03	<0.20		mg/kg	
			Total (Wet Wt) Cadmium (Cd)	2024/11/03	<0.0013		mg/kg	
			Total (Wet Wt) Calcium (Ca)	2024/11/03	<4.0		mg/kg	
			Total (Wet Wt) Chromium (Cr)	2024/11/03	<0.025		mg/kg	
			Total (Wet Wt) Cobalt (Co)	2024/11/03	<0.0013		mg/kg	
			Total (Wet Wt) Copper (Cu)	2024/11/03	<0.013		mg/kg	
			Total (Wet Wt) Iron (Fe)	2024/11/03	<0.25		mg/kg	
			Total (Wet Wt) Lead (Pb)	2024/11/03	<0.0013		mg/kg	
			Total (Wet Wt) Magnesium (Mg)	2024/11/03	<0.40		mg/kg	
			Total (Wet Wt) Manganese (Mn)	2024/11/03	<0.010		mg/kg	
			Total (Wet Wt) Mercury (Hg)	2024/11/03	<0.013		mg/kg	
			Total (Wet Wt) Molybdenum (Mo)	2024/11/03	<0.0080		mg/kg	
			Total (Wet Wt) Nickel (Ni)	2024/11/03	<0.010		mg/kg	
			Total (Wet Wt) Phosphorus (P)	2024/11/03	<2.0		mg/kg	
			Total (Wet Wt) Potassium (K)	2024/11/03	<2.5		mg/kg	
			Total (Wet Wt) Selenium (Se)	2024/11/03	<0.010		mg/kg	
			Total (Wet Wt) Silver (Ag)	2024/11/03	<0.0013		mg/kg	
			Total (Wet Wt) Sodium (Na)	2024/11/03	<2.5		mg/kg	
			Total (Wet Wt) Strontium (Sr)	2024/11/03	<0.013		mg/kg	
			Total (Wet Wt) Thallium (Tl)	2024/11/03	<0.00040		mg/kg	
			Total (Wet Wt) Tin (Sn)	2024/11/03	<0.020		mg/kg	
			Total (Wet Wt) Titanium (Ti)	2024/11/03	<0.13		mg/kg	
			Total (Wet Wt) Uranium (U)	2024/11/03	<0.00040		mg/kg	
			Total (Wet Wt) Vanadium (V)	2024/11/03	<0.020		mg/kg	
			Total (Wet Wt) Zinc (Zn)	2024/11/03	<0.20		mg/kg	
B588932	MEM	RPD [CWI482-01]	Total (Wet Wt) Aluminum (Al)	2024/11/03	NC		%	40
			Total (Wet Wt) Antimony (Sb)	2024/11/03	40		%	40
			Total (Wet Wt) Arsenic (As)	2024/11/03	8.2		%	40
			Total (Wet Wt) Barium (Ba)	2024/11/03	NC		%	40
			Total (Wet Wt) Beryllium (Be)	2024/11/03	NC		%	40
			Total (Wet Wt) Bismuth (Bi)	2024/11/03	NC		%	40
			Total (Wet Wt) Boron (B)	2024/11/03	NC		%	40
			Total (Wet Wt) Cadmium (Cd)	2024/11/03	30		%	40
			Total (Wet Wt) Calcium (Ca)	2024/11/03	9.2		%	60
			Total (Wet Wt) Chromium (Cr)	2024/11/03	NC		%	40
			Total (Wet Wt) Cobalt (Co)	2024/11/03	11		%	40

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total (Wet Wt) Copper (Cu)	2024/11/03	7.0		%	40
			Total (Wet Wt) Iron (Fe)	2024/11/03	7.1		%	40
			Total (Wet Wt) Lead (Pb)	2024/11/03	4.3		%	40
			Total (Wet Wt) Magnesium (Mg)	2024/11/03	7.8		%	40
			Total (Wet Wt) Manganese (Mn)	2024/11/03	12		%	40
			Total (Wet Wt) Mercury (Hg)	2024/11/03	6.9		%	40
			Total (Wet Wt) Molybdenum (Mo)	2024/11/03	NC		%	40
			Total (Wet Wt) Nickel (Ni)	2024/11/03	NC		%	40
			Total (Wet Wt) Phosphorus (P)	2024/11/03	9.4		%	40
			Total (Wet Wt) Potassium (K)	2024/11/03	6.5		%	40
			Total (Wet Wt) Selenium (Se)	2024/11/03	8.6		%	40
			Total (Wet Wt) Silver (Ag)	2024/11/03	NC		%	40
			Total (Wet Wt) Sodium (Na)	2024/11/03	11		%	40
			Total (Wet Wt) Strontium (Sr)	2024/11/03	18		%	60
			Total (Wet Wt) Thallium (Tl)	2024/11/03	2.8		%	40
			Total (Wet Wt) Tin (Sn)	2024/11/03	NC		%	40
			Total (Wet Wt) Titanium (Ti)	2024/11/03	22		%	40
			Total (Wet Wt) Uranium (U)	2024/11/03	NC		%	40
			Total (Wet Wt) Vanadium (V)	2024/11/03	NC		%	40
			Total (Wet Wt) Zinc (Zn)	2024/11/03	6.3		%	40
B588976	CG5	RPD [CWI482-01]	Sample Wet Weight	2024/10/31	6.4		%	N/A
			Moisture	2024/10/31	2.7		%	20
B589198	RLC	QC Standard	Total (Wet Wt) Mercury (Hg)	2024/11/05		83	%	N/A
B589198	RLC	Spiked Blank	Total (Wet Wt) Mercury (Hg)	2024/11/05		97	%	80 - 120
B589198	RLC	Method Blank	Total (Wet Wt) Mercury (Hg)	2024/11/05	<0.0020		mg/kg	
B589198	RLC	RPD [CWI462-01]	Total (Wet Wt) Mercury (Hg)	2024/11/05	4.9		%	40
B589217	RLC	Matrix Spike [CWI482-01]	Total (Wet Wt) Mercury (Hg)	2024/11/08		85	%	80 - 120
B589217	RLC	QC Standard	Total (Wet Wt) Mercury (Hg)	2024/11/08		130	%	59 - 141
B589217	RLC	Spiked Blank	Total (Wet Wt) Mercury (Hg)	2024/11/08		106	%	80 - 120
B589217	RLC	Method Blank	Total (Wet Wt) Mercury (Hg)	2024/11/08	<0.0010		mg/kg	
B589217	RLC	RPD [CWI482-01]	Total (Wet Wt) Mercury (Hg)	2024/11/08	7.6		%	40
B593974	BCZ	Reagent Blank	1-Methylnaphthalene	2024/10/29	<0.050		mg/kg	
			2-Methylnaphthalene	2024/10/29	<0.050		mg/kg	
			Benzo(j)fluoranthene	2024/10/29	<0.050		mg/kg	
			D10-ANTHRACENE (sur.)	2024/10/29		100	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2024/10/29		98	%	50 - 130
			Perylene	2024/10/29	<0.050		mg/kg	
			TERPHENYL-D14 (sur.)	2024/10/29		100	%	50 - 130
			Naphthalene	2024/10/29	<0.050		mg/kg	
			Acenaphthylene	2024/10/29	<0.050		mg/kg	
			Acenaphthene	2024/10/29	<0.050		mg/kg	
			Fluorene	2024/10/29	<0.050		mg/kg	
			Phenanthrene	2024/10/29	<0.050		mg/kg	
			Anthracene	2024/10/29	<0.050		mg/kg	
			Fluoranthene	2024/10/29	<0.050		mg/kg	
			Pyrene	2024/10/29	<0.050		mg/kg	
			Benzo(a)anthracene	2024/10/29	<0.050		mg/kg	
			Chrysene	2024/10/29	<0.050		mg/kg	
			Benzo(b)fluoranthene	2024/10/29	<0.050		mg/kg	
			Benzo(k)fluoranthene	2024/10/29	<0.050		mg/kg	
			Benzo(a)pyrene	2024/10/29	<0.050		mg/kg	
			Indeno(1,2,3-cd)pyrene	2024/10/29	<0.050		mg/kg	
			Dibenz(a,h)anthracene	2024/10/29	<0.050		mg/kg	

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Benzo(g,h,i)perylene	2024/10/29	<0.050		mg/kg	
B593974	BCZ	Matrix Spike [CWI483-02]	1-Methylnaphthalene	2024/10/29		90	%	50 - 130
			2-Methylnaphthalene	2024/10/29		99	%	50 - 130
			Benzo(j)fluoranthene	2024/10/29		93	%	50 - 130
			D10-ANTHRACENE (sur.)	2024/10/29		92	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2024/10/29		91	%	50 - 130
			Perylene	2024/10/29		82	%	50 - 130
			TERPHENYL-D14 (sur.)	2024/10/29		99	%	50 - 130
			Naphthalene	2024/10/29		91	%	50 - 130
			Acenaphthylene	2024/10/29		87	%	50 - 130
			Acenaphthene	2024/10/29		92	%	50 - 130
			Fluorene	2024/10/29		92	%	50 - 130
			Phenanthrene	2024/10/29		99	%	50 - 130
			Anthracene	2024/10/29		86	%	50 - 130
			Fluoranthene	2024/10/29		88	%	50 - 130
			Pyrene	2024/10/29		88	%	50 - 130
			Benzo(a)anthracene	2024/10/29		84	%	50 - 130
			Chrysene	2024/10/29		100	%	50 - 130
			Benzo(b)fluoranthene	2024/10/29		91	%	50 - 130
			Benzo(k)fluoranthene	2024/10/29		91	%	50 - 130
			Benzo(a)pyrene	2024/10/29		90	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2024/10/29		85	%	50 - 130
			Dibenz(a,h)anthracene	2024/10/29		89	%	50 - 130
			Benzo(g,h,i)perylene	2024/10/29		88	%	50 - 130
B593974	BCZ	Spiked Blank	1-Methylnaphthalene	2024/10/29		92	%	50 - 130
			2-Methylnaphthalene	2024/10/29		99	%	50 - 130
			Benzo(j)fluoranthene	2024/10/29		93	%	50 - 130
			D10-ANTHRACENE (sur.)	2024/10/29		96	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2024/10/29		95	%	50 - 130
			Perylene	2024/10/29		82	%	50 - 130
			TERPHENYL-D14 (sur.)	2024/10/29		99	%	50 - 130
			Naphthalene	2024/10/29		92	%	50 - 130
			Acenaphthylene	2024/10/29		89	%	50 - 130
			Acenaphthene	2024/10/29		93	%	50 - 130
			Fluorene	2024/10/29		93	%	50 - 130
			Phenanthrene	2024/10/29		100	%	50 - 130
			Anthracene	2024/10/29		87	%	50 - 130
			Fluoranthene	2024/10/29		90	%	50 - 130
			Pyrene	2024/10/29		87	%	50 - 130
			Benzo(a)anthracene	2024/10/29		83	%	50 - 130
			Chrysene	2024/10/29		96	%	50 - 130
			Benzo(b)fluoranthene	2024/10/29		92	%	50 - 130
			Benzo(k)fluoranthene	2024/10/29		89	%	50 - 130
			Benzo(a)pyrene	2024/10/29		91	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2024/10/29		86	%	50 - 130
			Dibenz(a,h)anthracene	2024/10/29		89	%	50 - 130
			Benzo(g,h,i)perylene	2024/10/29		91	%	50 - 130
B593974	BCZ	Method Blank	1-Methylnaphthalene	2024/10/29	<0.050		mg/kg	
			2-Methylnaphthalene	2024/10/29	<0.050		mg/kg	
			Benzo(j)fluoranthene	2024/10/29	<0.050		mg/kg	
			D10-ANTHRACENE (sur.)	2024/10/29		95	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2024/10/29		94	%	50 - 130
			Perylene	2024/10/29	<0.050		mg/kg	

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			TERPHENYL-D14 (sur.)	2024/10/29		97	%	50 - 130
			Naphthalene	2024/10/29	<0.050		mg/kg	
			Acenaphthylene	2024/10/29	<0.050		mg/kg	
			Acenaphthene	2024/10/29	<0.050		mg/kg	
			Fluorene	2024/10/29	<0.050		mg/kg	
			Phenanthrene	2024/10/29	<0.050		mg/kg	
			Anthracene	2024/10/29	<0.050		mg/kg	
			Fluoranthene	2024/10/29	<0.050		mg/kg	
			Pyrene	2024/10/29	<0.050		mg/kg	
			Benzo(a)anthracene	2024/10/29	<0.050		mg/kg	
			Chrysene	2024/10/29	<0.050		mg/kg	
			Benzo(b)fluoranthene	2024/10/29	<0.050		mg/kg	
			Benzo(k)fluoranthene	2024/10/29	<0.050		mg/kg	
			Benzo(a)pyrene	2024/10/29	<0.050		mg/kg	
			Indeno(1,2,3-cd)pyrene	2024/10/29	<0.050		mg/kg	
			Dibenz(a,h)anthracene	2024/10/29	<0.050		mg/kg	
			Benzo(g,h,i)perylene	2024/10/29	<0.050		mg/kg	
B593974	BCZ	RPD [CWI483-02]	1-Methylnaphthalene	2024/10/29	NC		%	50
			2-Methylnaphthalene	2024/10/29	NC		%	50
			Benzo(j)fluoranthene	2024/10/29	NC		%	50
			Perylene	2024/10/29	NC		%	50
			Naphthalene	2024/10/29	NC		%	50
			Acenaphthylene	2024/10/29	NC		%	50
			Acenaphthene	2024/10/29	NC		%	50
			Fluorene	2024/10/29	NC		%	50
			Phenanthrene	2024/10/29	NC		%	50
			Anthracene	2024/10/29	NC		%	50
			Fluoranthene	2024/10/29	NC		%	50
			Pyrene	2024/10/29	NC		%	50
			Benzo(a)anthracene	2024/10/29	NC		%	50
			Chrysene	2024/10/29	NC		%	50
			Benzo(b)fluoranthene	2024/10/29	NC		%	50
			Benzo(k)fluoranthene	2024/10/29	NC		%	50
			Benzo(a)pyrene	2024/10/29	NC		%	50
			Indeno(1,2,3-cd)pyrene	2024/10/29	NC		%	50
			Dibenz(a,h)anthracene	2024/10/29	NC		%	50
			Benzo(g,h,i)perylene	2024/10/29	NC		%	50
B593975	éH7	Reagent Blank	1-Methylnaphthalene	2024/10/31	<0.050		mg/kg	
			2-Methylnaphthalene	2024/10/31	<0.050		mg/kg	
			Benzo(j)fluoranthene	2024/10/31	<0.050		mg/kg	
			D10-ANTHRACENE (sur.)	2024/10/31		101	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2024/10/31		96	%	50 - 130
			Perylene	2024/10/31	<0.050		mg/kg	
			TERPHENYL-D14 (sur.)	2024/10/31		101	%	50 - 130
			Naphthalene	2024/10/31	<0.050		mg/kg	
			Acenaphthylene	2024/10/31	<0.050		mg/kg	
			Acenaphthene	2024/10/31	<0.050		mg/kg	
			Fluorene	2024/10/31	<0.050		mg/kg	
			Phenanthrene	2024/10/31	<0.050		mg/kg	
			Anthracene	2024/10/31	<0.050		mg/kg	
			Fluoranthene	2024/10/31	<0.050		mg/kg	
			Pyrene	2024/10/31	<0.050		mg/kg	
			Benzo(a)anthracene	2024/10/31	<0.050		mg/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Chrysene	2024/10/31	<0.050		mg/kg	
			Benzo(b)fluoranthene	2024/10/31	<0.050		mg/kg	
			Benzo(k)fluoranthene	2024/10/31	<0.050		mg/kg	
			Benzo(a)pyrene	2024/10/31	<0.050		mg/kg	
			Indeno(1,2,3-cd)pyrene	2024/10/31	<0.050		mg/kg	
			Dibenz(a,h)anthracene	2024/10/31	<0.050		mg/kg	
			Benzo(g,h,i)perylene	2024/10/31	<0.050		mg/kg	
B593975	éH7	Matrix Spike [CWI484-02]	1-Methylnaphthalene	2024/10/31		92	%	50 - 130
			2-Methylnaphthalene	2024/10/31		100	%	50 - 130
			Benzo(j)fluoranthene	2024/10/31		93	%	50 - 130
			D10-ANTHRACENE (sur.)	2024/10/31		87	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2024/10/31		87	%	50 - 130
			Perylene	2024/10/31		81	%	50 - 130
			TERPHENYL-D14 (sur.)	2024/10/31		97	%	50 - 130
			Naphthalene	2024/10/31		93	%	50 - 130
			Acenaphthylene	2024/10/31		84	%	50 - 130
			Acenaphthene	2024/10/31		95	%	50 - 130
			Fluorene	2024/10/31		94	%	50 - 130
			Phenanthrene	2024/10/31		97	%	50 - 130
			Anthracene	2024/10/31		86	%	50 - 130
			Fluoranthene	2024/10/31		85	%	50 - 130
			Pyrene	2024/10/31		85	%	50 - 130
			Benzo(a)anthracene	2024/10/31		79	%	50 - 130
			Chrysene	2024/10/31		99	%	50 - 130
			Benzo(b)fluoranthene	2024/10/31		90	%	50 - 130
			Benzo(k)fluoranthene	2024/10/31		93	%	50 - 130
			Benzo(a)pyrene	2024/10/31		88	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2024/10/31		85	%	50 - 130
			Dibenz(a,h)anthracene	2024/10/31		90	%	50 - 130
			Benzo(g,h,i)perylene	2024/10/31		90	%	50 - 130
B593975	éH7	Spiked Blank	1-Methylnaphthalene	2024/10/31		93	%	50 - 130
			2-Methylnaphthalene	2024/10/31		101	%	50 - 130
			Benzo(j)fluoranthene	2024/10/31		96	%	50 - 130
			D10-ANTHRACENE (sur.)	2024/10/31		98	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2024/10/31		95	%	50 - 130
			Perylene	2024/10/31		84	%	50 - 130
			TERPHENYL-D14 (sur.)	2024/10/31		101	%	50 - 130
			Naphthalene	2024/10/31		91	%	50 - 130
			Acenaphthylene	2024/10/31		92	%	50 - 130
			Acenaphthene	2024/10/31		96	%	50 - 130
			Fluorene	2024/10/31		96	%	50 - 130
			Phenanthrene	2024/10/31		104	%	50 - 130
			Anthracene	2024/10/31		87	%	50 - 130
			Fluoranthene	2024/10/31		92	%	50 - 130
			Pyrene	2024/10/31		92	%	50 - 130
			Benzo(a)anthracene	2024/10/31		84	%	50 - 130
			Chrysene	2024/10/31		100	%	50 - 130
			Benzo(b)fluoranthene	2024/10/31		96	%	50 - 130
			Benzo(k)fluoranthene	2024/10/31		92	%	50 - 130
			Benzo(a)pyrene	2024/10/31		94	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2024/10/31		86	%	50 - 130
			Dibenz(a,h)anthracene	2024/10/31		89	%	50 - 130
			Benzo(g,h,i)perylene	2024/10/31		91	%	50 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
B593975	éH7	Method Blank	1-Methylnaphthalene	2024/10/31	<0.050		mg/kg	
			2-Methylnaphthalene	2024/10/31	<0.050		mg/kg	
			Benzo(j)fluoranthene	2024/10/31	<0.050		mg/kg	
			D10-ANTHRACENE (sur.)	2024/10/31		98	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2024/10/31		95	%	50 - 130
			Perylene	2024/10/31	<0.050		mg/kg	
			TERPHENYL-D14 (sur.)	2024/10/31		99	%	50 - 130
			Naphthalene	2024/10/31	<0.050		mg/kg	
			Acenaphthylene	2024/10/31	<0.050		mg/kg	
			Acenaphthene	2024/10/31	<0.050		mg/kg	
			Fluorene	2024/10/31	<0.050		mg/kg	
			Phenanthrene	2024/10/31	<0.050		mg/kg	
			Anthracene	2024/10/31	<0.050		mg/kg	
			Fluoranthene	2024/10/31	<0.050		mg/kg	
			Pyrene	2024/10/31	<0.050		mg/kg	
			Benzo(a)anthracene	2024/10/31	<0.050		mg/kg	
			Chrysene	2024/10/31	<0.050		mg/kg	
			Benzo(b)fluoranthene	2024/10/31	<0.050		mg/kg	
			Benzo(k)fluoranthene	2024/10/31	<0.050		mg/kg	
			Benzo(a)pyrene	2024/10/31	<0.050		mg/kg	
			Indeno(1,2,3-cd)pyrene	2024/10/31	<0.050		mg/kg	
			Dibenz(a,h)anthracene	2024/10/31	<0.050		mg/kg	
			Benzo(g,h,i)perylene	2024/10/31	<0.050		mg/kg	
B593975	éH7	RPD [CWI482-02]	1-Methylnaphthalene	2024/10/31	NC		%	50
			2-Methylnaphthalene	2024/10/31	NC		%	50
			Benzo(j)fluoranthene	2024/10/31	NC		%	50
			Perylene	2024/10/31	NC		%	50
			Naphthalene	2024/10/31	NC		%	50
			Acenaphthylene	2024/10/31	NC		%	50
			Acenaphthene	2024/10/31	NC		%	50
			Fluorene	2024/10/31	NC		%	50
			Phenanthrene	2024/10/31	NC		%	50
			Anthracene	2024/10/31	NC		%	50
			Fluoranthene	2024/10/31	NC		%	50
			Pyrene	2024/10/31	NC		%	50
			Benzo(a)anthracene	2024/10/31	NC		%	50
			Chrysene	2024/10/31	NC		%	50
			Benzo(b)fluoranthene	2024/10/31	NC		%	50
			Benzo(k)fluoranthene	2024/10/31	NC		%	50
			Benzo(a)pyrene	2024/10/31	NC		%	50
			Indeno(1,2,3-cd)pyrene	2024/10/31	NC		%	50
			Dibenz(a,h)anthracene	2024/10/31	NC		%	50

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Benzo(g,h,i)perylene	2024/10/31	NC		%	50

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Reagent Blank: A blank matrix containing all reagents used in the analytical procedure. Used to determine any analytical contamination.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Refrence Material exceeds acceptance critieria. Re-analysis yields similar results.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C476093
Report Date: 2024/11/12

WSP Canada Inc.
Client Project #: CA0026317.6821.86000.04
Site Location: BAFFINLAND IRON MINE
Sampler Initials: DV

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Phil Deveau, Scientific Specialist (Organics)

Bureau Veritas Certified by David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Raphael Kwan, General Manager, BC and Yukon Regions responsible for British Columbia Environmental laboratory operations.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

C476093
2024/09/25 08:36

08542425

Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5 Toll Free (800) 665 8566
Victoria: 460 Tennyson Place, Unit 1, Victoria, BC V8Z 6S8 Toll Free (866) 385-6112
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CHAIN OF CUSTODY RECORD

Page 1 of 3

Invoice Information		Report Information (if differs from invoice)		Project Information	
Company:	WSP Canada Inc.	Company:		Quotation	C40127
Contact Name:	Collin Arens	Contact Name:		P.O. #/AFE#:	
Address:	16820 107 Ave.	Address:			
	Edmonton, AB PC: T5P 4C3		PC:	Project #:	CA0026317.6821-86000.04
Phone/Fax:	(780) 237-9638	Phone/Fax:		Site Location:	Baffinland Iron Mine
Email:	collin.arens@wsp.com	Email:		Site #:	Milne Port/Reference Site
Copies:	rainie.sharpe@wsp.com	Copies:		Sampled By:	DV, MC, NOB

Turnaround Time (TAT) Required

☑ 5 - 7 Days Regular (Most analyses)

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Rush TAT (Surcharges will be applied)

☐ Same Day ☐ 2 Days
☐ 1 Day ☐ 3-4 Days

Date Required:

Rush Confirmation #:

Laboratory Use Only

	YES	NO	Cooler ID			
Seal Present		—	Temp	3	5	8
Seal Intact		—				
Cooling Media	—					

	YES	NO	Cooler ID			
Seal Present			Temp			
Seal Intact						
Cooling Media						

	YES	NO	Cooler ID			
Seal Present			Temp			
Seal Intact						
Cooling Media						

Depot Reception

Analysis Requested

#	Sample Identification	Date Sampled (yyyy/mm/dd)	Time Sampled (hh:mm)	Matrix	# of Containers	Elements by CRC ICPMS - Tissue Wet Wt (EPA 6020b R2 m)	Mercury in Tissue by CVAF - Wet Wt (EPA 245.7)	PAH in Tissue by GC/MS (SIM) (EPA 8270E R6 m)	Moisture in Tissue - Freeze Drying (BCMOE BCLM Aug 2014)	Moisture in Tissue (BCMOE BCLM Dec2000m)	Sample Homogenization (EPA 200.3 R1)	HOLD - DO NOT ANALYZE
1	BAFF24UDPFFHSC1004	2024/08/04	12:10	Tissue	2	X	X	X	X	X	X	
2	BAFF24UDPFFHSC1012	2024/08/04	14:18	Tissue	2	X	X	X	X	X	X	
3	BAFF24UDPFFHSC1015	2024/08/04	14:47	Tissue	2	X	X	X	X	X	X	
4	BAFF24UDPFFHSC1016	2024/08/04	14:56	Tissue	2	X	X	X	X	X	X	
5	BAFF24UDPFFHSC1023	2024/08/04	16:20	Tissue	2	X	X	X	X	X	X	
6	BAFF24UDPFFHSC1034	2024/08/05	14:52	Tissue	2	X	X	X	X	X	X	
7	BAFF24UIPFFHSC1038	2024/08/08	16:53	Tissue	2	X	X	X	X	X	X	
8	BAFF24UIPFFHSC1040	2024/08/08	17:13	Tissue	2	X	X	X	X	X	X	
9												
10												

Regulatory Criteria

☐ BC CSR
☐ YK CSR
☐ CCME
☐ Drinking Water
☐ BC Water Quality
☐ Other

Special Instructions

Samples intended for metals and PAH analyses should be indicated on sample labels

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Relinquished by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):	Received by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):
LindseyA	2024-09-24	1200	Thu Irem Ates	2024/09/25	08:36

MVAN-2024-09-1411

ICE FROZEN.

C476093
2024/09/25 08:36

08542424

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Victoria: 460 Tennyson Place, Unit 1, Victoria, BC V8Z 6S8 Toll Free (866) 385-6112
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CHAIN OF CUSTODY RECORD

Invoice Information		Report Information (if differs from invoice)		Project Information		Turnaround Time (TAT) Required	
Company :	WSP Canada Inc.	Company:		Quotation	C40127	☑ 5 - 7 Days Regular (Most analyses)	
Contact Name:	Collin Arens	Contact Name:		P.O. #/AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS	
Address:	16820 107 Ave.	Address:				Rush TAT (Surcharges will be applied)	
	Edmonton, AB PC: T5P 4C3		PC:	Project #:	CA0026317.6821-86000.04	☐ Same Day ☐ 2 Days	
Phone/Fax:	(780) 237-9638	Phone/Fax:		Site Location:	Baffinland Iron Mine	☐ 1 Day ☐ 3-4 Days	
Email:	collin.arens@wsp.com	Email:		Site #:	Milne Port/Reference Site	Date Required:	
Copies:	rainie.sharpe@wsp.com	Copies:		Sampled By:	DV, MC, NOB	Rush Confirmation #:	

Laboratory Use Only

	YES	NO	Cooler ID			
Seal Present		—	Temp	3	5	8
Seal Intact		—				
Cooling Media	—					

	YES	NO	Cooler ID			
Seal Present			Temp			
Seal Intact						
Cooling Media						

	YES	NO	Cooler ID			
Seal Present			Temp			
Seal Intact						
Cooling Media						

Depot Reception

Analysis Requested

Sample Identification	Date Sampled (yyyy/mm/dd)	Time Sampled (hh:mm)	Matrix	# of Containers	Elements by CRC ICPMS - Tissue Wet Wt (EPA 6020b R2 m)	Mercury in Tissue by CVAF - Wet Wt (EPA 245.7)	PAH in Tissue by GC/MS (SIM) (EPA 8270E R5 m)	Moisture in Tissue - Freeze Drying (BCMOE BCLM Aug 2014)	Moisture in Tissue (BCMOE BCLM Dec2000m)	Sample Homogenization (EPA 200.3 R1)	HOLD - DO NOT ANALYZE
1 BAFF24UKLKFHSC2002	2024/08/03	17:10	Tissue	2	X	X	X	X	X	X	
2 BAFF24UKLKFHSC2004	2024/08/03	17:30	Tissue	2	X	X	X	X	X	X	
3 BAFF24UKLKFHSC2005	2024/08/03	17:39	Tissue	2	X	X	X	X	X	X	
4 BAFF24UKLKFHSC2015	2024/08/09	16:23	Tissue	2	X	X	X	X	X	X	
5 BAFF24UKLKFHSC2019	2024/08/09	16:49	Tissue	2	X	X	X	X	X	X	
6 BAFF24UKLKFHSC2031	2024/08/09	17:59	Tissue	2	X	X	X	X	X	X	
7 BAFF24UKLKFHSC2035	2024/08/09	18:20	Tissue	2	X	X	X	X	X	X	
8 BAFF24UKLKFHSC2037	2024/08/16	17:20	Tissue	2	X	X	X	X	X	X	
9											
10											

Regulatory Criteria

- ☐ BC CSR
- ☐ YK CSR
- ☐ CCME
- ☐ Drinking Water
- ☐ BC Water Quality
- ☐ Other

Special Instructions

Samples intended for metals and PAH analyses should be indicated on sample labels

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Relinquished by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):	Received by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):	BV Job #
Lindsey	2024-09-24	1200	Irem Ates	20240925	08:36	

ICE FROZEN.

C476093
2024/09/25 08:36

08542426

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CHAIN OF CUSTODY RECORD

Invoice Information		Report Information (if differs from invoice)		Project Information		Turnaround Time (TAT) Required
Company:	WSP Canada Inc.	Company:		Quotation	C40127	☑ 5 - 7 Days Regular (Most analyses)
Contact Name:	Collin Arens	Contact Name:		P.O. #/AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	16820 107 Ave.	Address:				Rush TAT (Surcharges will be applied)
	Edmonton, AB PC: T5P 4C3		PC:	Project #:	CA0026317.6821-86000.04	☐ Same Day ☐ 2 Days
Phone/Fax:	(780) 237-9638	Phone/Fax:		Site Location:	Baffinland Iron Mine	☐ 1 Day ☐ 3-4 Days
Email:	collin.arens@wsp.com	Email:		Site #:	Milne Port/Reference Site	Date Required:
Copies:	rainie.sharpe@wsp.com	Copies:		Sampled By:	DV, MC, NO8	Rush Confirmation #:

Laboratory Use Only

	YES	NO	Cooler ID			
Seal Present		—				
Seal Intact		—	Temp	3	5	8
Cooling Media	—					
	YES	NO	Cooler ID			
Seal Present						
Seal Intact			Temp			
Cooling Media						
	YES	NO	Cooler ID			
Seal Present						
Seal Intact			Temp			
Cooling Media						

Depot Reception

Regulatory Criteria

☐ BC CSR
☐ YK CSR
☐ CCME
☐ Drinking Water
☐ BC Water Quality
☐ Other

Special Instructions

	Sample Identification	Date Sampled (yyyy/mm/dd)	Time Sampled (hh:mm)	Matrix	# of Containers	Elements by CRC ICPMS - Tissue Wet Wt (EPA 6020b R2 m)	Mercury in Tissue by CVAF - Wet Wt (EPA 245.7)	PAH in Tissue by GC/MS (SIM) (EPA 8270E R5 m)	Moisture in Tissue - Freeze Drying (BCMOE BCLM Aug 2014)	Moisture in Tissue (BCMOE BCLM Dec2000m)	Sample Homogenization (EPA 200.3 R1)	HOLD - DO NOT ANALYZE
1	BAFF23UDPFARCH4001	2022/08/01	10:41	Tissue	2	X	X	X	X	X	X	
2	BAFF24UDPFARCH4002	2024/08/07	12:54	Tissue	2	X	X	X	X	X	X	
3	BAFF24UIPFARCH4003	2024/08/08	11:12	Tissue	2	X	X	X	X	X	X	
4	BAFF24UIPFARCH4004	2024/08/08	11:12	Tissue	2	X	X	X	X	X	X	
5	BAFF24UIPFARCH4005	2024/08/08	11:12	Tissue	2	X	X	X	X	X	X	
6	BAFF24UIPFARCH4008	2024/08/11	11:47	Tissue	2	X	X	X	X	X	X	
7	BAFF24UIPFARCH4010	2024/08/11	11:47	Tissue	2	X	X	X	X	X	X	
8	BAFF24UIPFARCH4012	2024/08/17	12:35	Tissue	2	X	X	X	X	X	X	
9												
10												

Samples intended for metals and PAH analyses should be indicated on sample labels

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Relinquished by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):	Received by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):	BV Job #
Lyndsey A	2024-09-24	12:00	Irem Ates	2024/09/25	08:36	

ICE FROZEN.

Your Project #: CA0026317.6821-86000.04
Site Location: BAFFINLAND IRON MINE, MILNE PORT/REFERENCE SITE
Your C.O.C. #: 08546136, 08546137

Attention: Collin Arens

WSP Canada Inc.
16820-107 AVE
EDMONTON, AB
CANADA T5P 4C3

Report Date: 2025/02/03
Report #: R3618704
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C4A2459
Received: 2024/12/16, 12:13

Sample Matrix: Tissue
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mercury in Tissue by CVAF - Wet Wt	14	N/A	2025/01/24	BBY7SOP-00012	EPA 245.7 R2m
Elements by ICPMS - Tissue Plug Wet Wt	14	2024/12/20	2025/01/22	BBY7SOP-00021 / BBY7SOP-00002	EPA 6020b R2 m
Moisture in Tissue - Freeze Drying	1	2024/12/20	2025/01/21	BBY7SOP-00021	BCMOE BCLM Aug 2014
Moisture in Tissue - Freeze Drying	13	2024/12/20	2024/12/20	BBY7SOP-00021	BCMOE BCLM Aug 2014

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: CA0026317.6821-86000.04
Site Location: BAFFINLAND IRON MINE, MILNE PORT/REFERENCE SITE
Your C.O.C. #: 08546136, 08546137

Attention: Collin Arens

WSP Canada Inc.
16820-107 AVE
EDMONTON, AB
CANADA T5P 4C3

Report Date: 2025/02/03
Report #: R3618704
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C4A2459
Received: 2024/12/16, 12:13

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Melissa McIntosh, Customer Solutions Representative
Email: melissa.mcintosh@bureauveritas.com
Phone# (604) 734 7276

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Raphael Kwan, General Manager, BC and Yukon Regions responsible for British Columbia Environmental laboratory operations.

Bureau Veritas Job #: C4A2459
Report Date: 2025/02/03

WSP Canada Inc.
Client Project #: CA0026317.6821-86000.04
Site Location: BAFFINLAND IRON MINE, MILNE PORT/REFERENCE SITE
Sampler Initials: DV

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		DCF503	DCF504	DCF505		
Sampling Date		2024/12/16	2024/12/16	2024/12/16		
COC Number		08546136	08546136	08546136		
	UNITS	BAFF24-MLN-HTAR-COMP-METAL-1	BAFF24-MLN-HTAR-COMP-METAL-2	BAFF24-MLN-HTAR-COMP-METAL-3	RDL	QC Batch
Mercury by CVAF						
Total (Wet Wt) Mercury (Hg)	mg/kg	0.0302	0.0368	0.0460	0.0020	B660368
Total Metals by ICPMS						
Total (Wet Wt) Aluminum (Al)	mg/kg	63.5	64.9	123	0.50	B645263
Total (Wet Wt) Antimony (Sb)	mg/kg	0.0045	0.0129	0.0036	0.0020	B645263
Total (Wet Wt) Arsenic (As)	mg/kg	1.72	1.75	2.16	0.0050	B645263
Total (Wet Wt) Barium (Ba)	mg/kg	3.71	20.3	4.35	0.010	B645263
Total (Wet Wt) Beryllium (Be)	mg/kg	0.0045	0.0035	0.0077	0.0020	B645263
Total (Wet Wt) Bismuth (Bi)	mg/kg	0.0078	0.0023	0.0027	0.0013	B645263
Total (Wet Wt) Boron (B)	mg/kg	2.36	3.03	3.08	0.20	B645263
Total (Wet Wt) Cadmium (Cd)	mg/kg	0.816	0.931	1.04	0.0013	B645263
Total (Wet Wt) Calcium (Ca)	mg/kg	1220	1130	1430	4.0	B645263
Total (Wet Wt) Chromium (Cr)	mg/kg	0.189	0.251	0.389	0.025	B645263
Total (Wet Wt) Cobalt (Co)	mg/kg	0.244	0.331	0.295	0.0013	B645263
Total (Wet Wt) Copper (Cu)	mg/kg	1.65	1.70	1.60	0.013	B645263
Total (Wet Wt) Iron (Fe)	mg/kg	151	146	256	0.25	B645263
Total (Wet Wt) Lead (Pb)	mg/kg	0.0953	0.0908	0.132	0.0013	B645263
Total (Wet Wt) Magnesium (Mg)	mg/kg	825	1000	1040	0.40	B645263
Total (Wet Wt) Manganese (Mn)	mg/kg	21.9	30.9	18.0	0.010	B645263
Total (Wet Wt) Molybdenum (Mo)	mg/kg	0.190	0.191	0.168	0.0080	B645263
Total (Wet Wt) Nickel (Ni)	mg/kg	0.426	0.662	0.634	0.010	B645263
Total (Wet Wt) Phosphorus (P)	mg/kg	1480	1250	1150	2.0	B645263
Total (Wet Wt) Potassium (K)	mg/kg	959	1090	834	2.5	B645263
Total (Wet Wt) Selenium (Se)	mg/kg	1.66	1.66	1.58	0.010	B645263
Total (Wet Wt) Silver (Ag)	mg/kg	0.0087	0.0072	0.0065	0.0013	B645263
Total (Wet Wt) Sodium (Na)	mg/kg	2800	5000	3980	2.5	B645263
Total (Wet Wt) Strontium (Sr)	mg/kg	9.48	11.2	12.3	0.013	B645263
Total (Wet Wt) Thallium (Tl)	mg/kg	0.00289	0.00481	0.00393	0.00040	B645263
Total (Wet Wt) Tin (Sn)	mg/kg	<0.020	<0.020	<0.020	0.020	B645263
Total (Wet Wt) Titanium (Ti)	mg/kg	2.25	1.94	3.66	0.13	B645263
Total (Wet Wt) Uranium (U)	mg/kg	0.0555	0.0910	0.0870	0.00040	B645263
Total (Wet Wt) Vanadium (V)	mg/kg	0.697	0.717	0.820	0.020	B645263
Total (Wet Wt) Zinc (Zn)	mg/kg	17.2	16.7	16.1	0.20	B645263

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C4A2459
Report Date: 2025/02/03

WSP Canada Inc.
Client Project #: CA0026317.6821-86000.04
Site Location: BAFFINLAND IRON MINE, MILNE PORT/REFERENCE SITE
Sampler Initials: DV

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		DCF506	DCF507	DCF508		
Sampling Date		2024/12/16	2024/12/16	2024/12/16		
COC Number		08546136	08546136	08546136		
	UNITS	BAFF24-MLN-HTAR-COMP-METAL-4	BAFF24-MLN-HTAR-COMP-METAL-5	BAFF24-MLN-HTAR-COMP-METAL-6	RDL	QC Batch
Mercury by CVAF						
Total (Wet Wt) Mercury (Hg)	mg/kg	0.0296	0.0493	0.0487	0.0020	B660368
Total Metals by ICPMS						
Total (Wet Wt) Aluminum (Al)	mg/kg	67.6	21.1	29.3	0.50	B645263
Total (Wet Wt) Antimony (Sb)	mg/kg	0.0064	0.0051	0.0038	0.0020	B645263
Total (Wet Wt) Arsenic (As)	mg/kg	1.97	1.75	1.52	0.0050	B645263
Total (Wet Wt) Barium (Ba)	mg/kg	3.90	53.1	4.63	0.010	B645263
Total (Wet Wt) Beryllium (Be)	mg/kg	0.0044	0.0020	0.0023	0.0020	B645263
Total (Wet Wt) Bismuth (Bi)	mg/kg	0.0028	0.0023	0.0016	0.0013	B645263
Total (Wet Wt) Boron (B)	mg/kg	2.88	2.09	2.43	0.20	B645263
Total (Wet Wt) Cadmium (Cd)	mg/kg	0.804	0.801	1.28	0.0013	B645263
Total (Wet Wt) Calcium (Ca)	mg/kg	1340	684	877	4.0	B645263
Total (Wet Wt) Chromium (Cr)	mg/kg	0.251	0.187	0.153	0.025	B645263
Total (Wet Wt) Cobalt (Co)	mg/kg	0.257	0.255	0.264	0.0013	B645263
Total (Wet Wt) Copper (Cu)	mg/kg	1.49	1.58	1.25	0.013	B645263
Total (Wet Wt) Iron (Fe)	mg/kg	164	82.5	79.8	0.25	B645263
Total (Wet Wt) Lead (Pb)	mg/kg	0.0932	0.0510	0.0503	0.0013	B645263
Total (Wet Wt) Magnesium (Mg)	mg/kg	647	841	911	0.40	B645263
Total (Wet Wt) Manganese (Mn)	mg/kg	17.8	20.5	27.3	0.010	B645263
Total (Wet Wt) Molybdenum (Mo)	mg/kg	0.122	0.173	0.157	0.0080	B645263
Total (Wet Wt) Nickel (Ni)	mg/kg	0.447	0.597	0.565	0.010	B645263
Total (Wet Wt) Phosphorus (P)	mg/kg	2030	1330	1310	2.0	B645263
Total (Wet Wt) Potassium (K)	mg/kg	1070	993	1190	2.5	B645263
Total (Wet Wt) Selenium (Se)	mg/kg	1.55	1.32	1.71	0.010	B645263
Total (Wet Wt) Silver (Ag)	mg/kg	0.0046	0.0107	0.0051	0.0013	B645263
Total (Wet Wt) Sodium (Na)	mg/kg	2190	4300	5190	2.5	B645263
Total (Wet Wt) Strontium (Sr)	mg/kg	9.64	9.99	8.17	0.013	B645263
Total (Wet Wt) Thallium (Tl)	mg/kg	0.00404	0.00213	0.00213	0.00040	B645263
Total (Wet Wt) Tin (Sn)	mg/kg	<0.020	<0.020	<0.020	0.020	B645263
Total (Wet Wt) Titanium (Ti)	mg/kg	2.24	0.66	0.83	0.13	B645263
Total (Wet Wt) Uranium (U)	mg/kg	0.0712	0.0757	0.0570	0.00040	B645263
Total (Wet Wt) Vanadium (V)	mg/kg	0.910	0.516	0.446	0.020	B645263
Total (Wet Wt) Zinc (Zn)	mg/kg	13.1	13.1	17.4	0.20	B645263

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Job #: C4A2459
Report Date: 2025/02/03

WSP Canada Inc.
Client Project #: CA0026317.6821-86000.04
Site Location: BAFFINLAND IRON MINE, MILNE PORT/REFERENCE SITE
Sampler Initials: DV

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		DCF509	DCF510	DCF511		
Sampling Date		2024/12/16	2024/12/16	2024/12/16		
COC Number		08546136	08546136	08546136		
	UNITS	BAFF24-MLN-HTAR-COMP-METAL-7	BAFF24-MLN-HTAR-COMP-METAL-8	BAFF24-REF-HTAR-COMP-METAL-1	RDL	QC Batch
Mercury by CVAF						
Total (Wet Wt) Mercury (Hg)	mg/kg	0.0504	0.0397	0.0203	0.0020	B660368
Total Metals by ICPMS						
Total (Wet Wt) Aluminum (Al)	mg/kg	47.7	25.3	112	0.50	B645263
Total (Wet Wt) Antimony (Sb)	mg/kg	0.0234	0.0027	0.0046	0.0020	B645263
Total (Wet Wt) Arsenic (As)	mg/kg	2.18	2.05	1.78	0.0050	B645263
Total (Wet Wt) Barium (Ba)	mg/kg	31.8	5.29	15.9	0.010	B645263
Total (Wet Wt) Beryllium (Be)	mg/kg	0.0067	0.0021	0.0058	0.0020	B645263
Total (Wet Wt) Bismuth (Bi)	mg/kg	0.0027	0.0018	0.0024	0.0013	B645263
Total (Wet Wt) Boron (B)	mg/kg	2.81	2.78	2.98	0.20	B645263
Total (Wet Wt) Cadmium (Cd)	mg/kg	0.817	0.902	1.11	0.0013	B645263
Total (Wet Wt) Calcium (Ca)	mg/kg	988	939	1140	4.0	B645263
Total (Wet Wt) Chromium (Cr)	mg/kg	0.375	0.167	0.233	0.025	B645263
Total (Wet Wt) Cobalt (Co)	mg/kg	0.302	0.199	0.240	0.0013	B645263
Total (Wet Wt) Copper (Cu)	mg/kg	1.44	1.16	1.67	0.013	B645263
Total (Wet Wt) Iron (Fe)	mg/kg	132	85.7	177	0.25	B645263
Total (Wet Wt) Lead (Pb)	mg/kg	0.0772	0.0435	0.224	0.0013	B645263
Total (Wet Wt) Magnesium (Mg)	mg/kg	1050	851	980	0.40	B645263
Total (Wet Wt) Manganese (Mn)	mg/kg	18.6	14.3	15.7	0.010	B645263
Total (Wet Wt) Molybdenum (Mo)	mg/kg	0.171	0.153	0.348	0.0080	B645263
Total (Wet Wt) Nickel (Ni)	mg/kg	0.727	0.505	0.414	0.010	B645263
Total (Wet Wt) Phosphorus (P)	mg/kg	952	1210	1530	2.0	B645263
Total (Wet Wt) Potassium (K)	mg/kg	882	1080	1450	2.5	B645263
Total (Wet Wt) Selenium (Se)	mg/kg	1.55	1.83	1.75	0.010	B645263
Total (Wet Wt) Silver (Ag)	mg/kg	0.0067	0.0030	0.0435	0.0013	B645263
Total (Wet Wt) Sodium (Na)	mg/kg	5620	4940	4770	2.5	B645263
Total (Wet Wt) Strontium (Sr)	mg/kg	12.6	9.96	10.1	0.013	B645263
Total (Wet Wt) Thallium (Tl)	mg/kg	0.00448	0.00205	0.00349	0.00040	B645263
Total (Wet Wt) Tin (Sn)	mg/kg	<0.020	<0.020	<0.020	0.020	B645263
Total (Wet Wt) Titanium (Ti)	mg/kg	1.35	0.98	3.98	0.13	B645263
Total (Wet Wt) Uranium (U)	mg/kg	0.114	0.0659	0.0608	0.00040	B645263
Total (Wet Wt) Vanadium (V)	mg/kg	0.767	0.510	0.602	0.020	B645263
Total (Wet Wt) Zinc (Zn)	mg/kg	16.8	13.8	14.0	0.20	B645263

RDL = Reportable Detection Limit

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		DCF511		DCF512		
Sampling Date		2024/12/16		2024/12/16		
COC Number		08546136		08546136		
	UNITS	BAFF24-REF-HTAR-COMP-METAL-1 REPEAT	QC Batch	BAFF24-REF-HTAR-COMP-METAL-2	RDL	QC Batch
Mercury by CVAF						
Total (Wet Wt) Mercury (Hg)	mg/kg	N/A	B660368	0.0432	0.0020	B660368
Total Metals by ICPMS						
Total (Wet Wt) Aluminum (Al)	mg/kg	N/A	B645263	304	0.50	B645263
Total (Wet Wt) Antimony (Sb)	mg/kg	N/A	B645263	0.0140	0.0020	B645263
Total (Wet Wt) Arsenic (As)	mg/kg	N/A	B645263	2.57	0.0050	B645263
Total (Wet Wt) Barium (Ba)	mg/kg	N/A	B645263	38.3	0.010	B645263
Total (Wet Wt) Beryllium (Be)	mg/kg	N/A	B645263	0.0196	0.0020	B645263
Total (Wet Wt) Bismuth (Bi)	mg/kg	N/A	B645263	0.0049	0.0013	B645263
Total (Wet Wt) Boron (B)	mg/kg	N/A	B645263	4.43	0.20	B645263
Total (Wet Wt) Cadmium (Cd)	mg/kg	N/A	B645263	1.30	0.0013	B645263
Total (Wet Wt) Calcium (Ca)	mg/kg	N/A	B645263	2260	4.0	B645263
Total (Wet Wt) Chromium (Cr)	mg/kg	N/A	B645263	0.719	0.025	B645263
Total (Wet Wt) Cobalt (Co)	mg/kg	N/A	B645263	0.485	0.0013	B645263
Total (Wet Wt) Copper (Cu)	mg/kg	N/A	B645263	2.09	0.013	B645263
Total (Wet Wt) Iron (Fe)	mg/kg	N/A	B645263	528	0.25	B645263
Total (Wet Wt) Lead (Pb)	mg/kg	N/A	B645263	0.352	0.0013	B645263
Total (Wet Wt) Magnesium (Mg)	mg/kg	N/A	B645263	1310	0.40	B645263
Total (Wet Wt) Manganese (Mn)	mg/kg	N/A	B645263	42.1	0.010	B645263
Total (Wet Wt) Molybdenum (Mo)	mg/kg	0.242	B673983	0.196	0.0080	B645263
Total (Wet Wt) Nickel (Ni)	mg/kg	N/A	N/A	0.846	0.010	B645263
Total (Wet Wt) Phosphorus (P)	mg/kg	N/A	N/A	1340	2.0	B645263
Total (Wet Wt) Potassium (K)	mg/kg	N/A	N/A	1230	2.5	B645263
Total (Wet Wt) Selenium (Se)	mg/kg	N/A	N/A	1.97	0.010	B645263
Total (Wet Wt) Silver (Ag)	mg/kg	0.0247	B673983	0.0097	0.0013	B645263
Total (Wet Wt) Sodium (Na)	mg/kg	N/A	N/A	4750	2.5	B645263
Total (Wet Wt) Strontium (Sr)	mg/kg	N/A	N/A	16.7	0.013	B645263
Total (Wet Wt) Thallium (Tl)	mg/kg	N/A	N/A	0.00829	0.00040	B645263
Total (Wet Wt) Tin (Sn)	mg/kg	N/A	N/A	<0.020	0.020	B645263
Total (Wet Wt) Titanium (Ti)	mg/kg	N/A	N/A	13.3	0.13	B645263
Total (Wet Wt) Uranium (U)	mg/kg	N/A	N/A	0.161	0.00040	B645263
Total (Wet Wt) Vanadium (V)	mg/kg	N/A	N/A	1.18	0.020	B645263

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		DCF511		DCF512		
Sampling Date		2024/12/16		2024/12/16		
COC Number		08546136		08546136		
	UNITS	BAFF24-REF-HTAR-COMP-METAL-1 REPEAT	QC Batch	BAFF24-REF-HTAR-COMP-METAL-2	RDL	QC Batch
Total (Wet Wt) Zinc (Zn)	mg/kg	N/A	N/A	19.9	0.20	B645263

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		DCF512		DCF513	DCF514		
Sampling Date		2024/12/16		2024/12/16	2024/12/16		
COC Number		08546136		08546136	08546136		
	UNITS	BAFF24-REF-HTAR-COMP-METAL-2 REPEAT	QC Batch	BAFF24-REF-HTAR-COMP-METAL-3	BAFF24-REF-HTAR-COMP-METAL-4	RDL	QC Batch
Mercury by CVAF							
Total (Wet Wt) Mercury (Hg)	mg/kg	N/A	B660368	0.0271	0.0484	0.0020	B660368
Total Metals by ICPMS							
Total (Wet Wt) Aluminum (Al)	mg/kg	253	B673983	140	133	0.50	B645263
Total (Wet Wt) Antimony (Sb)	mg/kg	N/A	N/A	0.0042	0.0050	0.0020	B645263
Total (Wet Wt) Arsenic (As)	mg/kg	N/A	N/A	2.25	2.21	0.0050	B645263
Total (Wet Wt) Barium (Ba)	mg/kg	N/A	N/A	2.93	56.4	0.010	B645263
Total (Wet Wt) Beryllium (Be)	mg/kg	N/A	N/A	0.0068	0.0114	0.0020	B645263
Total (Wet Wt) Bismuth (Bi)	mg/kg	N/A	N/A	0.0036	0.0043	0.0013	B645263
Total (Wet Wt) Boron (B)	mg/kg	N/A	N/A	5.20	3.57	0.20	B645263
Total (Wet Wt) Cadmium (Cd)	mg/kg	N/A	N/A	0.857	1.12	0.0013	B645263
Total (Wet Wt) Calcium (Ca)	mg/kg	1880	B673983	1510	1270	4.0	B645263
Total (Wet Wt) Chromium (Cr)	mg/kg	0.679	B673983	0.288	0.436	0.025	B645263
Total (Wet Wt) Cobalt (Co)	mg/kg	N/A	N/A	0.250	0.358	0.0013	B645263
Total (Wet Wt) Copper (Cu)	mg/kg	N/A	N/A	2.03	1.66	0.013	B645263
Total (Wet Wt) Iron (Fe)	mg/kg	445	B673983	216	253	0.25	B645263
Total (Wet Wt) Lead (Pb)	mg/kg	N/A	N/A	0.209	0.190	0.0013	B645263
Total (Wet Wt) Magnesium (Mg)	mg/kg	N/A	N/A	852	1180	0.40	B645263
Total (Wet Wt) Manganese (Mn)	mg/kg	31.2	B673983	20.3	19.0	0.010	B645263
Total (Wet Wt) Molybdenum (Mo)	mg/kg	N/A	N/A	0.143	0.184	0.0080	B645263
Total (Wet Wt) Nickel (Ni)	mg/kg	N/A	N/A	0.453	0.805	0.010	B645263
Total (Wet Wt) Phosphorus (P)	mg/kg	N/A	N/A	1500	1550	2.0	B645263
Total (Wet Wt) Potassium (K)	mg/kg	N/A	N/A	1500	1160	2.5	B645263
Total (Wet Wt) Selenium (Se)	mg/kg	N/A	N/A	2.18	1.96	0.010	B645263
Total (Wet Wt) Silver (Ag)	mg/kg	N/A	N/A	0.0105	0.0094	0.0013	B645263
Total (Wet Wt) Sodium (Na)	mg/kg	N/A	N/A	4590	4890	2.5	B645263
Total (Wet Wt) Strontium (Sr)	mg/kg	N/A	N/A	12.3	12.2	0.013	B645263
Total (Wet Wt) Thallium (Tl)	mg/kg	0.00755	B673983	0.00412	0.00449	0.00040	B645263
Total (Wet Wt) Tin (Sn)	mg/kg	N/A	N/A	<0.020	<0.020	0.020	B645263
Total (Wet Wt) Titanium (Ti)	mg/kg	10.5	B673983	4.62	5.09	0.13	B645263
Total (Wet Wt) Uranium (U)	mg/kg	N/A	N/A	0.0706	0.125	0.00040	B645263
Total (Wet Wt) Vanadium (V)	mg/kg	N/A	N/A	0.755	0.874	0.020	B645263

RDL = Reportable Detection Limit
N/A = Not Applicable

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Bureau Veritas Job #: C4A2459
Report Date: 2025/02/03

WSP Canada Inc.
Client Project #: CA0026317.6821-86000.04
Site Location: BAFFINLAND IRON MINE, MILNE PORT/REFERENCE SITE
Sampler Initials: DV

ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		DCF512		DCF513	DCF514		
Sampling Date		2024/12/16		2024/12/16	2024/12/16		
COC Number		08546136		08546136	08546136		
	UNITS	**BAFF24-REF-HTAR-COMP-METAL-2 REPEAT**	**QC Batch**	**BAFF24-REF-HTAR-COMP-METAL-3**	**BAFF24-REF-HTAR-COMP-METAL-4**	**RDL**	**QC Batch**
Total (Wet Wt) Zinc (Zn)	mg/kg	N/A	N/A	16.4	17.4	0.20	B645263

RDL = Reportable Detection Limit
N/A = Not Applicable

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ELEMENTS BY ATOMIC SPECTROSCOPY - WET WT (TISSUE)

Bureau Veritas ID		DCF515		DCF516		
Sampling Date		2024/12/16		2024/12/16		
COC Number		08546137		08546137		
	UNITS	BAFF24-REF-HTAR-COMP-METAL-5	RDL	BAFF24-REF-HTAR-COMP-METAL-6	RDL	QC Batch
Mercury by CVAF						
Total (Wet Wt) Mercury (Hg)	mg/kg	0.0289	0.0020	0.0264	0.0010	B660368
Total Metals by ICPMS						
Total (Wet Wt) Aluminum (Al)	mg/kg	71.0	0.50	90.7	0.50	B645263
Total (Wet Wt) Antimony (Sb)	mg/kg	0.0038	0.0020	0.0056	0.0020	B645263
Total (Wet Wt) Arsenic (As)	mg/kg	1.83	0.0050	2.18	0.0050	B645263
Total (Wet Wt) Barium (Ba)	mg/kg	142	0.010	8.61	0.010	B645263
Total (Wet Wt) Beryllium (Be)	mg/kg	0.0058	0.0020	0.0065	0.0020	B645263
Total (Wet Wt) Bismuth (Bi)	mg/kg	0.0022	0.0013	0.0020	0.0013	B645263
Total (Wet Wt) Boron (B)	mg/kg	2.72	0.20	2.73	0.20	B645263
Total (Wet Wt) Cadmium (Cd)	mg/kg	0.732	0.0013	1.27	0.0013	B645263
Total (Wet Wt) Calcium (Ca)	mg/kg	863	4.0	892	4.0	B645263
Total (Wet Wt) Chromium (Cr)	mg/kg	0.319	0.025	0.362	0.025	B645263
Total (Wet Wt) Cobalt (Co)	mg/kg	0.309	0.0013	0.266	0.0013	B645263
Total (Wet Wt) Copper (Cu)	mg/kg	1.24	0.013	1.07	0.013	B645263
Total (Wet Wt) Iron (Fe)	mg/kg	141	0.25	159	0.25	B645263
Total (Wet Wt) Lead (Pb)	mg/kg	0.112	0.0013	0.119	0.0013	B645263
Total (Wet Wt) Magnesium (Mg)	mg/kg	883	0.40	1040	0.40	B645263
Total (Wet Wt) Manganese (Mn)	mg/kg	22.1	0.010	17.7	0.010	B645263
Total (Wet Wt) Molybdenum (Mo)	mg/kg	0.159	0.0080	0.112	0.0080	B645263
Total (Wet Wt) Nickel (Ni)	mg/kg	0.619	0.010	0.695	0.010	B645263
Total (Wet Wt) Phosphorus (P)	mg/kg	1210	2.0	1190	2.0	B645263
Total (Wet Wt) Potassium (K)	mg/kg	1170	2.5	1210	2.5	B645263
Total (Wet Wt) Selenium (Se)	mg/kg	1.51	0.010	1.02	0.010	B645263
Total (Wet Wt) Silver (Ag)	mg/kg	0.0136	0.0013	0.0110	0.0013	B645263
Total (Wet Wt) Sodium (Na)	mg/kg	4910	2.5	5620	2.5	B645263
Total (Wet Wt) Strontium (Sr)	mg/kg	14.1	0.013	8.13	0.013	B645263
Total (Wet Wt) Thallium (Tl)	mg/kg	0.00345	0.00040	0.00416	0.00040	B645263
Total (Wet Wt) Tin (Sn)	mg/kg	<0.020	0.020	<0.020	0.020	B645263
Total (Wet Wt) Titanium (Ti)	mg/kg	2.52	0.13	3.11	0.13	B645263
Total (Wet Wt) Uranium (U)	mg/kg	0.104	0.00040	0.119	0.00040	B645263
Total (Wet Wt) Vanadium (V)	mg/kg	0.562	0.020	0.829	0.020	B645263
Total (Wet Wt) Zinc (Zn)	mg/kg	11.4	0.20	10.3	0.20	B645263

RDL = Reportable Detection Limit

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PHYSICAL TESTING (TISSUE)

Bureau Veritas ID		DCF503	DCF504	DCF505	DCF506		
Sampling Date		2024/12/16	2024/12/16	2024/12/16	2024/12/16		
COC Number		08546136	08546136	08546136	08546136		
	UNITS	BAFF24-MLN-HTAR-COMP-METAL-1	BAFF24-MLN-HTAR-COMP-METAL-2	BAFF24-MLN-HTAR-COMP-METAL-3	BAFF24-MLN-HTAR-COMP-METAL-4	RDL	QC Batch
Physical Properties							
Sample Wet Weight	%	0.25	0.24	0.20	0.33	N/A	B645339
Moisture	%	79	82	81	79	0.30	B645339

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID		DCF507	DCF508	DCF509	DCF510		
Sampling Date		2024/12/16	2024/12/16	2024/12/16	2024/12/16		
COC Number		08546136	08546136	08546136	08546136		
	UNITS	BAFF24-MLN-HTAR-COMP-METAL-5	BAFF24-MLN-HTAR-COMP-METAL-6	BAFF24-MLN-HTAR-COMP-METAL-7	BAFF24-MLN-HTAR-COMP-METAL-8	RDL	QC Batch
Physical Properties							
Sample Wet Weight	%	0.31	0.26	0.20	0.38	N/A	B645339
Moisture	%	82	80	83	81	0.30	B645339

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID		DCF511	DCF512	DCF513	DCF514		
Sampling Date		2024/12/16	2024/12/16	2024/12/16	2024/12/16		
COC Number		08546136	08546136	08546136	08546136		
	UNITS	BAFF24-REF-HTAR-COMP-METAL-1	BAFF24-REF-HTAR-COMP-METAL-2	BAFF24-REF-HTAR-COMP-METAL-3	BAFF24-REF-HTAR-COMP-METAL-4	RDL	QC Batch
Physical Properties							
Sample Wet Weight	%	0.28	0.31	0.33	0.37	N/A	B645339
Moisture	%	78	76	75	78	0.30	B645339

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID		DCF515	DCF516		
Sampling Date		2024/12/16	2024/12/16		
COC Number		08546137	08546137		
	UNITS	BAFF24-REF-HTAR-COMP-METAL-5	BAFF24-REF-HTAR-COMP-METAL-6	RDL	QC Batch
Physical Properties					
Sample Wet Weight	%	0.32	0.21	N/A	B645339
Moisture	%	82	79	0.30	B645339

RDL = Reportable Detection Limit
N/A = Not Applicable

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GENERAL COMMENTS

Sample DCF511, Elements by ICPMS - Tissue Plug Wet Wt: Test repeated.
Sample DCF512, Elements by ICPMS - Tissue Plug Wet Wt: Test repeated.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
B645263	MYO	QC Standard	Total (Wet Wt) Antimony (Sb)	2025/01/22		218	%	N/A
			Total (Wet Wt) Arsenic (As)	2025/01/22		88	%	N/A
			Total (Wet Wt) Cadmium (Cd)	2025/01/22		88	%	N/A
			Total (Wet Wt) Calcium (Ca)	2025/01/22		93	%	N/A
			Total (Wet Wt) Cobalt (Co)	2025/01/22		87	%	N/A
			Total (Wet Wt) Copper (Cu)	2025/01/22		90	%	N/A
			Total (Wet Wt) Iron (Fe)	2025/01/22		93	%	N/A
			Total (Wet Wt) Lead (Pb)	2025/01/22		103	%	N/A
			Total (Wet Wt) Manganese (Mn)	2025/01/22		89	%	N/A
			Total (Wet Wt) Molybdenum (Mo)	2025/01/22		89	%	N/A
			Total (Wet Wt) Phosphorus (P)	2025/01/22		94	%	N/A
			Total (Wet Wt) Potassium (K)	2025/01/22		94	%	N/A
			Total (Wet Wt) Selenium (Se)	2025/01/22		94	%	N/A
			Total (Wet Wt) Silver (Ag)	2025/01/22		91	%	N/A
			Total (Wet Wt) Sodium (Na)	2025/01/22		97	%	N/A
			Total (Wet Wt) Strontium (Sr)	2025/01/22		92	%	N/A
			Total (Wet Wt) Thallium (Tl)	2025/01/22		88	%	N/A
			Total (Wet Wt) Tin (Sn)	2025/01/22		79	%	N/A
			Total (Wet Wt) Uranium (U)	2025/01/22		94	%	N/A
			Total (Wet Wt) Vanadium (V)	2025/01/22		95	%	N/A
			Total (Wet Wt) Zinc (Zn)	2025/01/22		88	%	N/A
B645263	MYO	Spiked Blank	Total (Wet Wt) Aluminum (Al)	2025/01/22		108	%	80 - 120
			Total (Wet Wt) Antimony (Sb)	2025/01/22		111	%	80 - 120
			Total (Wet Wt) Arsenic (As)	2025/01/22		112	%	80 - 120
			Total (Wet Wt) Barium (Ba)	2025/01/22		104	%	80 - 120
			Total (Wet Wt) Beryllium (Be)	2025/01/22		100	%	80 - 120
			Total (Wet Wt) Bismuth (Bi)	2025/01/22		103	%	80 - 120
			Total (Wet Wt) Boron (B)	2025/01/22		111	%	80 - 120
			Total (Wet Wt) Cadmium (Cd)	2025/01/22		106	%	80 - 120
			Total (Wet Wt) Calcium (Ca)	2025/01/22		103	%	80 - 120
			Total (Wet Wt) Chromium (Cr)	2025/01/22		105	%	80 - 120
			Total (Wet Wt) Cobalt (Co)	2025/01/22		107	%	80 - 120
			Total (Wet Wt) Copper (Cu)	2025/01/22		106	%	80 - 120
			Total (Wet Wt) Iron (Fe)	2025/01/22		112	%	80 - 120
			Total (Wet Wt) Lead (Pb)	2025/01/22		104	%	80 - 120
			Total (Wet Wt) Magnesium (Mg)	2025/01/22		103	%	80 - 120
			Total (Wet Wt) Manganese (Mn)	2025/01/22		107	%	80 - 120
			Total (Wet Wt) Molybdenum (Mo)	2025/01/22		107	%	80 - 120
			Total (Wet Wt) Nickel (Ni)	2025/01/22		107	%	80 - 120
			Total (Wet Wt) Phosphorus (P)	2025/01/22		106	%	80 - 120
			Total (Wet Wt) Potassium (K)	2025/01/22		102	%	80 - 120
			Total (Wet Wt) Selenium (Se)	2025/01/22		114	%	80 - 120
			Total (Wet Wt) Silver (Ag)	2025/01/22		107	%	80 - 120
			Total (Wet Wt) Sodium (Na)	2025/01/22		105	%	80 - 120
			Total (Wet Wt) Strontium (Sr)	2025/01/22		101	%	80 - 120
			Total (Wet Wt) Thallium (Tl)	2025/01/22		106	%	80 - 120
			Total (Wet Wt) Tin (Sn)	2025/01/22		109	%	80 - 120
			Total (Wet Wt) Titanium (Ti)	2025/01/22		102	%	80 - 120
			Total (Wet Wt) Uranium (U)	2025/01/22		106	%	80 - 120
			Total (Wet Wt) Vanadium (V)	2025/01/22		106	%	80 - 120
			Total (Wet Wt) Zinc (Zn)	2025/01/22		106	%	80 - 120
B645263	MYO	Method Blank	Total (Wet Wt) Aluminum (Al)	2025/01/22	<0.50		mg/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total (Wet Wt) Antimony (Sb)	2025/01/22	<0.0020		mg/kg	
			Total (Wet Wt) Arsenic (As)	2025/01/22	<0.0050		mg/kg	
			Total (Wet Wt) Barium (Ba)	2025/01/22	<0.010		mg/kg	
			Total (Wet Wt) Beryllium (Be)	2025/01/22	<0.0020		mg/kg	
			Total (Wet Wt) Bismuth (Bi)	2025/01/22	<0.0013		mg/kg	
			Total (Wet Wt) Boron (B)	2025/01/22	<0.20		mg/kg	
			Total (Wet Wt) Cadmium (Cd)	2025/01/22	<0.0013		mg/kg	
			Total (Wet Wt) Calcium (Ca)	2025/01/22	<4.0		mg/kg	
			Total (Wet Wt) Chromium (Cr)	2025/01/22	<0.025		mg/kg	
			Total (Wet Wt) Cobalt (Co)	2025/01/22	<0.0013		mg/kg	
			Total (Wet Wt) Copper (Cu)	2025/01/22	<0.013		mg/kg	
			Total (Wet Wt) Iron (Fe)	2025/01/22	<0.25		mg/kg	
			Total (Wet Wt) Lead (Pb)	2025/01/22	<0.0013		mg/kg	
			Total (Wet Wt) Magnesium (Mg)	2025/01/22	<0.40		mg/kg	
			Total (Wet Wt) Manganese (Mn)	2025/01/22	<0.010		mg/kg	
			Total (Wet Wt) Molybdenum (Mo)	2025/01/22	<0.0080		mg/kg	
			Total (Wet Wt) Nickel (Ni)	2025/01/22	<0.010		mg/kg	
			Total (Wet Wt) Phosphorus (P)	2025/01/22	<2.0		mg/kg	
			Total (Wet Wt) Potassium (K)	2025/01/22	<2.5		mg/kg	
			Total (Wet Wt) Selenium (Se)	2025/01/22	<0.010		mg/kg	
			Total (Wet Wt) Silver (Ag)	2025/01/22	<0.0013		mg/kg	
			Total (Wet Wt) Sodium (Na)	2025/01/22	<2.5		mg/kg	
			Total (Wet Wt) Strontium (Sr)	2025/01/22	<0.013		mg/kg	
			Total (Wet Wt) Thallium (Tl)	2025/01/22	<0.00040		mg/kg	
			Total (Wet Wt) Tin (Sn)	2025/01/22	<0.020		mg/kg	
			Total (Wet Wt) Titanium (Ti)	2025/01/22	<0.13		mg/kg	
			Total (Wet Wt) Uranium (U)	2025/01/22	<0.00040		mg/kg	
			Total (Wet Wt) Vanadium (V)	2025/01/22	<0.020		mg/kg	
			Total (Wet Wt) Zinc (Zn)	2025/01/22	<0.20		mg/kg	
B645263	MYO	RPD [DCF504-01]	Total (Wet Wt) Aluminum (Al)	2025/01/22	3.2		%	40
			Total (Wet Wt) Antimony (Sb)	2025/01/22	18		%	40
			Total (Wet Wt) Arsenic (As)	2025/01/22	0.25		%	40
			Total (Wet Wt) Barium (Ba)	2025/01/22	0.59		%	40
			Total (Wet Wt) Beryllium (Be)	2025/01/22	16		%	40
			Total (Wet Wt) Bismuth (Bi)	2025/01/22	0.43		%	40
			Total (Wet Wt) Boron (B)	2025/01/22	2.7		%	40
			Total (Wet Wt) Cadmium (Cd)	2025/01/22	0.013		%	40
			Total (Wet Wt) Calcium (Ca)	2025/01/22	1.4		%	60
			Total (Wet Wt) Chromium (Cr)	2025/01/22	6.0		%	40
			Total (Wet Wt) Cobalt (Co)	2025/01/22	0.80		%	40
			Total (Wet Wt) Copper (Cu)	2025/01/22	2.4		%	40
			Total (Wet Wt) Iron (Fe)	2025/01/22	2.0		%	40
			Total (Wet Wt) Lead (Pb)	2025/01/22	19		%	40
			Total (Wet Wt) Magnesium (Mg)	2025/01/22	2.9		%	40
			Total (Wet Wt) Manganese (Mn)	2025/01/22	1.9		%	40
			Total (Wet Wt) Molybdenum (Mo)	2025/01/22	2.5		%	40
			Total (Wet Wt) Nickel (Ni)	2025/01/22	2.2		%	40
			Total (Wet Wt) Phosphorus (P)	2025/01/22	2.2		%	40
			Total (Wet Wt) Potassium (K)	2025/01/22	1.3		%	40
			Total (Wet Wt) Selenium (Se)	2025/01/22	3.1		%	40
			Total (Wet Wt) Silver (Ag)	2025/01/22	2.5		%	40
			Total (Wet Wt) Sodium (Na)	2025/01/22	2.8		%	40

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total (Wet Wt) Strontium (Sr)	2025/01/22	0.16		%	60
			Total (Wet Wt) Thallium (Tl)	2025/01/22	4.7		%	40
			Total (Wet Wt) Tin (Sn)	2025/01/22	NC		%	40
			Total (Wet Wt) Titanium (Ti)	2025/01/22	9.0		%	40
			Total (Wet Wt) Uranium (U)	2025/01/22	2.4		%	40
			Total (Wet Wt) Vanadium (V)	2025/01/22	3.9		%	40
			Total (Wet Wt) Zinc (Zn)	2025/01/22	2.9		%	40
B645339	CG5	RPD [DCF504-01]	Sample Wet Weight	2024/12/20	0.17		%	N/A
			Moisture	2024/12/20	0		%	20
B660368	RLC	QC Standard	Total (Wet Wt) Mercury (Hg)	2025/01/24		93	%	N/A
B660368	RLC	Spiked Blank	Total (Wet Wt) Mercury (Hg)	2025/01/24		119	%	80 - 120
B660368	RLC	Method Blank	Total (Wet Wt) Mercury (Hg)	2025/01/24	<0.0010		mg/kg	
B660368	RLC	RPD [DCF504-01]	Total (Wet Wt) Mercury (Hg)	2025/01/24	6.0		%	40
B673983	MYO	QC Standard	Total (Wet Wt) Calcium (Ca)	2025/01/30		92	%	75 - 125
			Total (Wet Wt) Iron (Fe)	2025/01/30		95	%	75 - 125
			Total (Wet Wt) Manganese (Mn)	2025/01/30		87	%	75 - 125
			Total (Wet Wt) Molybdenum (Mo)	2025/01/30		90	%	75 - 125
			Total (Wet Wt) Silver (Ag)	2025/01/30		88	%	75 - 125
			Total (Wet Wt) Thallium (Tl)	2025/01/30		82	%	75 - 125
B673983	MYO	Spiked Blank	Total (Wet Wt) Aluminum (Al)	2025/01/30		89	%	80 - 120
			Total (Wet Wt) Calcium (Ca)	2025/01/30		108	%	80 - 120
			Total (Wet Wt) Chromium (Cr)	2025/01/30		97	%	80 - 120
			Total (Wet Wt) Iron (Fe)	2025/01/30		104	%	80 - 120
			Total (Wet Wt) Manganese (Mn)	2025/01/30		97	%	80 - 120
			Total (Wet Wt) Molybdenum (Mo)	2025/01/30		101	%	80 - 120
			Total (Wet Wt) Silver (Ag)	2025/01/30		100	%	80 - 120
			Total (Wet Wt) Thallium (Tl)	2025/01/30		100	%	80 - 120
			Total (Wet Wt) Titanium (Ti)	2025/01/30		97	%	80 - 120
B673983	MYO	Method Blank	Total (Wet Wt) Aluminum (Al)	2025/01/30	<0.50		mg/kg	
			Total (Wet Wt) Calcium (Ca)	2025/01/30	<4.0		mg/kg	
			Total (Wet Wt) Chromium (Cr)	2025/01/30	<0.025		mg/kg	
			Total (Wet Wt) Iron (Fe)	2025/01/30	<0.25		mg/kg	
			Total (Wet Wt) Manganese (Mn)	2025/01/30	<0.010		mg/kg	
			Total (Wet Wt) Molybdenum (Mo)	2025/01/30	<0.0080		mg/kg	
			Total (Wet Wt) Silver (Ag)	2025/01/30	<0.0013		mg/kg	
			Total (Wet Wt) Thallium (Tl)	2025/01/30	<0.00040		mg/kg	
			Total (Wet Wt) Titanium (Ti)	2025/01/30	<0.13		mg/kg	

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

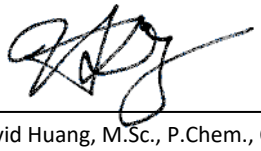
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

Bureau Veritas Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



David Huang, M.Sc., P.Chem., QP, Scientific Services Manager



Mauro Oselin, P.Chem., QP, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Raphael Kwan, General Manager, BC and Yukon Regions responsible for British Columbia Environmental laboratory operations.

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2024/12/16 12:13

08546136

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Tel: (604) 734-7276 Toll Free: (800) 665-8566

CHAIN OF CUSTODY RECORD

ENV COC - 00015v3

MVAN-2024-12-941

Invoice Information	Invoice to (requires report)	Report Information (if differs from invoice)		Project Information	
Company :	WSP Canada Inc.	Company:		Quotation #:	C40127
Contact Name:	Collin Arens	Contact Name:		P.O. #/ AFE#:	
Street Address:	16820 107 Ave.	Street Address:		Project #:	CA0026317.6821-86000.04
City: Edmonton Prov: AB Postal Code: T5P 4C3		City: Prov: Postal Code:		Site #:	
Phone:	(780) 237-9638	Phone:		Site Location:	Baffinland Iron Mine
Email:	collin.arens@wsp.com	Email:		Site Location Province:	Milne Port/Reference Site
Copies:	rainie.sharpe@wsp.com	Copies:		Sampled By:	DV, MC, NOB

Regulatory Criteria

☐ BC CSR ☐ CCME ☐ Drinking Water
☐ YUKON CSR ☐ BC Water Quality ☐ Other: _____

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

Regular Turnaround Time (TAT)
☐ 5 to 7 Day ☐ 10 Day

Rush Turnaround Time (TAT) Surcharges apply
☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☐ 4 Day

Date Required: YY MM DD

	Sample Identification	Date Sampled YY	MM	DD	Time (24hr) HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 BTEXS/VPH	5 VOCs	6 MTBE	7 BTEX/F1	8 PAHs	9 LEPH/HEPH	10 F2-F4	11 TEH	12 Dissolved metals	13 Dissolved mercury	14 Total metals	15 Total mercury	16	17	18	19	20	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE	Comments
1	BAFF24-MLN-HTAR-COMP-METALS-1						Tissue														x	x						1		By tissue plug method
2	BAFF24-MLN-HTAR-COMP-METALS-2						Tissue														x	x						1		By tissue plug method
3	BAFF24-MLN-HTAR-COMP-METALS-3						Tissue														x	x						1		By tissue plug method
4	BAFF24-MLN-HTAR-COMP-METALS-4						Tissue														x	x						1		By tissue plug method
5	BAFF24-MLN-HTAR-COMP-METALS-5						Tissue														x	x						1		By tissue plug method
6	BAFF24-MLN-HTAR-COMP-METALS-6						Tissue														x	x						1		By tissue plug method
7	BAFF24-MLN-HTAR-COMP-METALS-7						Tissue														x	x						1		By tissue plug method
8	BAFF24-MLN-HTAR-COMP-METALS-8						Tissue														x	x						1		By tissue plug method
9	BAFF24-REF-HTAR-COMP-METALS-1						Tissue														x	x						1		By tissue plug method
10	BAFF24-REF-HTAR-COMP-METALS-2						Tissue														x	x						1		By tissue plug method
11	BAFF24-REF-HTAR-COMP-METALS-3						Tissue														x	x						1		By tissue plug method
12	BAFF24-REF-HTAR-COMP-METALS-4						Tissue														x	x						1		By tissue plug method

Bureau Veritas
RECEIVED IN VICTORIA
DEC 16 2024 @ 12:13
By: SIMRAT BHATHAL
Temp: -1 / -1 / -1

*UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS AND CONDITIONS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS OR BY CALLING THE LABORATORY LISTED ABOVE TO OBTAIN A COPY

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present		=				
Seal Intact		=				
Cooling media present	~			4	8	4

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present						
Seal Intact						
Cooling media present						

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present						
Seal Intact						
Cooling media present						

Temperature reading by: 1 2 3

Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Received by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Special Instructions
1 Halle Dyck	24	12	16	12	11	1 Maria Zamora	2024	12	16	09	15	
2						2						

ICE Pack frozen

C4A2459
2024/12/16 12:13

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CHAIN OF CUSTODY RECORD
ENV COC - 00015v3

CONTINUED

[PAGE 1 REFERENCE]

Company:	WSP Canada Inc.
Contact Name:	Collin Arens
Project #:	CA0026317.6821-86000.04

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

	Sample Identification	Date Sampled YY	MM	DD	Time (24hr) HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 BTEXS/VPH	5 VOCs	6 MTBE	7 BTEX/F1	8 PAHs	9 LEPH/HEPH	10 F2-F4	11 TEH	12 Dissolved metals	13 Dissolved mercury	14 Total metals	15 Total mercury	16	17	18	19	20	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE	Same as above / Comments
13	BAFF24-REF-HTAR-COMP-METALS-5						Tissue														x	x						1		**By tissue plug method**
14	BAFF24-REF-HTAR-COMP-METALS-6						Tissue														x	x						1		By tissue plug method
15																														
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31	Bureau Veritas																													
32	RECEIVED IN VICTORIA																													
33	ICE: Yes COC: NO																													
34	DEC 10 2024 @12:13																													
35	By: SIMRAT BHATHAL																													
36	Temps: -1 / -1 / -1																													
37																														
38																														
39																														
40																														

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401157**	Page	: 1 of 9
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: +1 867 873 5593
Project	: CA0026317.6821/86000/03	Date Samples Received	: 12-Aug-2024 11:24
PO	: ----	Date Analysis Commenced	: 15-Aug-2024
C-O-C number	: ----	Issue Date	: 23-Aug-2024 13:16
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Angelo Salandanan	Lab Assistant	Metals, Burnaby, British Columbia
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
psu	practical salinity units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	*Description*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*
DTC	*Dissolved concentration exceeds total. Results were confirmed by re-analysis.*
RRV	*Reported result verified by repeat analysis.*

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: Ref-1	KLK-Ref-1	TGT-Ref-1	DUP-F	----
Client sampling date / time					09-Aug-2024 09:17	09-Aug-2024 09:30	09-Aug-2024 12:30	09-Aug-2024 00:00	----
					YL2401157-001	YL2401157-002	YL2401157-003	YL2401157-004	--------
					Result	Result	Result	Result	----
Physical Tests									
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	95.5	104	95.5	----
Conductivity	----	E100S/VA	2.0	µS/cm	2.0	37600	42500	37400	----
pH	----	E108/VA	0.10	pH units	5.54	8.02	8.01	8.00	----
Salinity	----	EC100S/VA	1.0	psu	<1.0	24.8	28.4	24.6	----
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L	<10	35700	40000	35500	----
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L	<2.0	<2.0	<2.0	<2.0	----
Turbidity	----	E121/VA	0.10	NTU	<0.10	0.28	0.11	0.30	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	<1.00	4960	5330	4860	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L	<1.00	4920	5460	4890	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	----
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L	<5.0	45.4	52.8	46.2	----
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L	<50	13500	15600	13800	----
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L	<0.20	0.72	0.78	0.73	----
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L	<0.050	<0.100 DLM	0.112	0.107	----
Nitrate (as N)	14797-55-8	E235S.NO3-T/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	----
Nitrite (as N)	14797-65-0	E235S.NO2-L/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	----
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L	<0.0020	0.0170	0.0202	0.0185	----
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L	<0.0020	0.0159	0.0187	0.0157	----
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/VA	3.0	mg/L	<3.0	1910	2150	1910	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	<0.50	0.96	1.00	0.87	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	<0.50	0.82	0.79	0.82	----
Total Metals									
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L	<0.0050	0.0096	0.0111	0.0111	----
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	----
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L	<0.00040	0.00359	0.00401	0.00388	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Ref-1	KLK-Ref-1	TGT-Ref-1	DUP-F	----
					Client sampling date / time	09-Aug-2024 09:17	09-Aug-2024 09:30	09-Aug-2024 12:30	09-Aug-2024 00:00	----
						YL2401157-001	YL2401157-002	YL2401157-003	YL2401157-004	--------
						Result	Result	Result	Result	----
Total Metals										
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L		<0.0010	0.0085	0.0082	0.0089	----
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Boron, total	7440-42-8	E466S/VA	0.30	mg/L		<0.30	3.34	3.66	3.44	----
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L		<0.000020	0.000021	0.000036	0.000021	----
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L		<1.0	323	357	331	----
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	0.00060	----
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L		<0.000050	0.000061	0.000067	0.000070	----
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L		<0.00050	0.00929	0.0122	0.00302	----
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Iron, total	7439-89-6	E466S/VA	0.010	mg/L		<0.010	0.012	0.012	0.016	----
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	----
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L		<0.020	0.144	0.157	0.148	----
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L		<1.0	1000	1110	986	----
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L		<0.00020	0.00095	0.00081	0.00110	----
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L		<0.00010	0.00809	0.00867	0.00853	----
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	0.00063	----
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	----
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L		<1.0	287	320	298	----
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L		<0.0050	0.0805	0.0896	0.0873	----
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Silicon, total	7440-21-3	E468S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	----
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	----
Sodium, total	7440-23-5	E468S.NaSi/VA	2.5	mg/L		<2.5	7600	8360	7750	----
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L		<0.010	5.47	6.14	5.97	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Ref-1	KLK-Ref-1	TGT-Ref-1	DUP-F	----
					Client sampling date / time	09-Aug-2024 09:17	09-Aug-2024 09:30	09-Aug-2024 12:30	09-Aug-2024 00:00	----
						YL2401157-001	YL2401157-002	YL2401157-003	YL2401157-004	--------
						Result	Result	Result	Result	----
Total Metals										
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L		<5.0	704	787	743	----
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	----
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	----
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L		<0.000050	0.00246	0.00268	0.00243	----
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L		<0.00050	0.00093	0.00105	0.00095	----
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	----
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	0.0061	<0.0050	----
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L		<0.00040	0.00289	0.00325	0.00301	----
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L		<0.0010	0.0087	0.0084	0.0086	----
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L		<0.30	3.51	3.88	3.56	----
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L		<0.000020	<0.000020	0.000038	0.000022	----
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L		<1.0	320	352	325	----
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L		<0.000050	<0.000050	0.000081	0.000061	----
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	0.00160	<0.00050	----
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	----
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	0.00175 DTC	<0.00010	----
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L		<0.020	0.142	0.155	0.136	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Ref-1	KLK-Ref-1	TGT-Ref-1	DUP-F	----
					Client sampling date / time	09-Aug-2024 09:17	09-Aug-2024 09:30	09-Aug-2024 12:30	09-Aug-2024 00:00	----
						YL2401157-001	YL2401157-002	YL2401157-003	YL2401157-004	--------
						Result	Result	Result	Result	----
Dissolved Metals										
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L		<1.0	1010	1080	983	----
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L		<0.00010	0.00062	0.00104	0.00059	----
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L		<0.00010	0.00734	0.00780	0.00705	----
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	----
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L		<1.0	288	315	288	----
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L		<0.0050	0.0744	0.0816	0.0737	----
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	0.00072	0.00062	----
Silicon, dissolved	7440-21-3	E469S.NaSi/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	----
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	----
Sodium, dissolved	7440-23-5	E469S.NaSi/VA	2.5	mg/L		<2.5	7170	7840	7520	----
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L		<0.010	5.05	5.51	4.99	----
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L		<5.0	690	758	678	----
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	----
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	----
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L		<0.000050	0.00244	0.00261	0.00250	----
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L		<0.00050	0.00088	0.00094	0.00085	----
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L		0.0016 RRV	<0.0010	0.0200 DTC	<0.0010	----
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	Field	Field	Field	----
Dissolved metals filtration location	----	EP421S/VA	-	-		Field	Field	Field	Field	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: Ref-1	KLK-Ref-1	TGT-Ref-1	DUP-F	----
Client sampling date / time					09-Aug-2024 09:17	09-Aug-2024 09:30	09-Aug-2024 12:30	09-Aug-2024 00:00	----
					YL2401157-001	YL2401157-002	YL2401157-003	YL2401157-004	--------
					Result	Result	Result	Result	----
Dissolved Metals									
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	Field	----
Volatile Organic Compounds [Fuels]									
Benzene	71-43-2	E611A/VA	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	----
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	----
Styrene	100-42-5	E611A/VA	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	----
Toluene	108-88-3	E611A/VA	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	----
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L	<0.40	<0.40	<0.40	<0.40	----
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L	<0.30	<0.30	<0.30	<0.30	----
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	----
Hydrocarbons									
EPH (C10-C19)	----	E601A/VA	250	µg/L	<250	<250	<250	<250	----
EPH (C19-C32)	----	E601A/VA	250	µg/L	<250	<250	<250	<250	----
F2 (C10-C16)	----	E601/VA	100	µg/L	<100	<100	<100	<100	----
F3 (C16-C34)	----	E601/VA	250	µg/L	<250	<250	<250	<250	----
F4 (C34-C50)	----	E601/VA	250	µg/L	<250	<250	<250	<250	----
TEH (C10-C50)	n/a	E601/VA	400	µg/L	<400	<400	<400	<400	----
TEH (C16-C50)	----	E601/VA	400	µg/L	<400	<400	<400	<400	----
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L	<100	<100	<100	<100	----
F1-BTEX	----	EC580/VA	100	µg/L	<100	<100	<100	<100	----
HEPHw	----	EC600A/VA	250	µg/L	<250	<250	<250	<250	----
LEPHw	----	EC600A/VA	250	µg/L	<250	<250	<250	<250	----
VPHw	----	EC580A/VA	100	µg/L	<100	<100	<100	<100	----
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L	<100	<100	<100	<100	----
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%	84.6	78.6	80.5	83.7	----
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	85.2	81.6	80.6	87.0	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	124	90.1	95.7	93.0	----

Analytical Results

Sub-Matrix: **Seawater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Ref-1	KLK-Ref-1	TGT-Ref-1	DUP-F	----
					Client sampling date / time	09-Aug-2024 09:17	09-Aug-2024 09:30	09-Aug-2024 12:30	09-Aug-2024 00:00	----
						YL2401157-001	YL2401157-002	YL2401157-003	YL2401157-004	--------
						Result	Result	Result	Result	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		88.2	83.2	82.7	82.0	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		102	101	100	99.7	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Acridine	260-94-6	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Anthracene	120-12-7	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		<0.0050	<0.0050	<0.0050	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		<0.015	<0.015	<0.015	<0.015	----
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Chrysene	218-01-9	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		<0.0050	<0.0050	<0.0050	<0.0050	----
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Fluorene	86-73-7	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Naphthalene	91-20-3	E641A/VA	0.050	µg/L		<0.050	<0.050	<0.050	<0.050	----
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L		<0.020	<0.020	<0.020	<0.020	----
Pyrene	129-00-0	E641A/VA	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	----
Quinoline	91-22-5	E641A/VA	0.050	µg/L		<0.050	<0.050	<0.050	<0.050	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%		113	97.7	97.4	94.2	----
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%		99.1	89.6	93.1	93.8	----
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%		105	96.2	99.2	96.4	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401157**	Page	: 1 of 24
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: +1 867 873 5593
Project	: CA0026317.6821/86000/03	Date Samples Received	: 12-Aug-2024 11:24
PO	: ----	Issue Date	: 23-Aug-2024 13:13
C-O-C number	: ----		
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) DUP-F	E298	09-Aug-2024	15-Aug-2024	28 days	6 days	✓	17-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) TGT-Ref-1	E298	09-Aug-2024	15-Aug-2024	28 days	6 days	✓	17-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) KLK-Ref-1	E298	09-Aug-2024	15-Aug-2024	28 days	7 days	✓	17-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Ref-1	E298	09-Aug-2024	15-Aug-2024	28 days	7 days	✓	17-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE DUP-F	E235S.Br	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE KLK-Ref-1	E235S.Br	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE Ref-1	E235S.Br	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Bromide in Seawater by IC										
HDPE TGT-Ref-1	E235S.Br	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE DUP-F	E235S.Cl	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE KLK-Ref-1	E235S.Cl	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE Ref-1	E235S.Cl	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE TGT-Ref-1	E235S.Cl	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE DUP-F	E235S.F-L	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE KLK-Ref-1	E235S.F-L	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE Ref-1	E235S.F-L	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE TGT-Ref-1	E235S.F-L	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
DUP-F	E235S.NO3-T	09-Aug-2024	16-Aug-2024	3 days	6 days	× EHTL	16-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
KLK-Ref-1	E235S.NO3-T	09-Aug-2024	16-Aug-2024	3 days	6 days	× EHTL	16-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
Ref-1	E235S.NO3-T	09-Aug-2024	16-Aug-2024	3 days	6 days	× EHTL	16-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE										
TGT-Ref-1	E235S.NO3-T	09-Aug-2024	16-Aug-2024	3 days	6 days	× EHTL	16-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
DUP-F	E235S.NO2-L	09-Aug-2024	16-Aug-2024	3 days	6 days	× EHTL	16-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
KLK-Ref-1	E235S.NO2-L	09-Aug-2024	16-Aug-2024	3 days	6 days	× EHTL	16-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
Ref-1	E235S.NO2-L	09-Aug-2024	16-Aug-2024	3 days	6 days	× EHTL	16-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE										
TGT-Ref-1	E235S.NO2-L	09-Aug-2024	16-Aug-2024	3 days	6 days	× EHTL	16-Aug-2024	3 days	6 days	× EHTL
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE										
DUP-F	E235S.SO4-L	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE KLK-Ref-1	E235S.SO4-L	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE Ref-1	E235S.SO4-L	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE TGT-Ref-1	E235S.SO4-L	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (sulfuric acid) DUP-F	E375-T	09-Aug-2024	16-Aug-2024	28 days	6 days	✓	17-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (sulfuric acid) TGT-Ref-1	E375-T	09-Aug-2024	16-Aug-2024	28 days	6 days	✓	17-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (sulfuric acid) KLK-Ref-1	E375-T	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	17-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (sulfuric acid) Ref-1	E375-T	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	17-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) DUP-F	E318S	09-Aug-2024	15-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) TGT-Ref-1	E318S	09-Aug-2024	15-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
KLK-Ref-1	E318S	09-Aug-2024	15-Aug-2024	28 days	7 days	✓	18-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid)										
Ref-1	E318S	09-Aug-2024	15-Aug-2024	28 days	7 days	✓	18-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
DUP-F	E372S	09-Aug-2024	15-Aug-2024	28 days	6 days	✓	17-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
TGT-Ref-1	E372S	09-Aug-2024	15-Aug-2024	28 days	6 days	✓	17-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
KLK-Ref-1	E372S	09-Aug-2024	15-Aug-2024	28 days	7 days	✓	17-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
Ref-1	E372S	09-Aug-2024	15-Aug-2024	28 days	7 days	✓	17-Aug-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
DUP-F	E509S	09-Aug-2024	20-Aug-2024	28 days	11 days	✓	20-Aug-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
KLK-Ref-1	E509S	09-Aug-2024	20-Aug-2024	28 days	11 days	✓	20-Aug-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
Ref-1	E509S	09-Aug-2024	20-Aug-2024	28 days	11 days	✓	20-Aug-2024	28 days	11 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid)										
TGT-Ref-1	E509S	09-Aug-2024	20-Aug-2024	28 days	11 days	✓	20-Aug-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
DUP-F	E465S	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	18-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
KLK-Ref-1	E465S	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	18-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
Ref-1	E465S	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	18-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid)										
TGT-Ref-1	E465S	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	18-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid)										
DUP-F	E469S.NaSi	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	17-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid)										
KLK-Ref-1	E469S.NaSi	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	17-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid)										
Ref-1	E469S.NaSi	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	17-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid)										
TGT-Ref-1	E469S.NaSi	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	17-Aug-2024	180 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
DUP-F	E601A	09-Aug-2024	16-Aug-2024	14 days	6 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
KLK-Ref-1	E601A	09-Aug-2024	16-Aug-2024	14 days	7 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
Ref-1	E601A	09-Aug-2024	16-Aug-2024	14 days	7 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
TGT-Ref-1	E601A	09-Aug-2024	16-Aug-2024	14 days	7 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
DUP-F	E601	09-Aug-2024	16-Aug-2024	14 days	6 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
KLK-Ref-1	E601	09-Aug-2024	16-Aug-2024	14 days	7 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
Ref-1	E601	09-Aug-2024	16-Aug-2024	14 days	7 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
TGT-Ref-1	E601	09-Aug-2024	16-Aug-2024	14 days	7 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
DUP-F	E581.VH+F1	09-Aug-2024	17-Aug-2024	14 days	7 days	✓	17-Aug-2024	14 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) TGT-Ref-1	E581.VH+F1	09-Aug-2024	17-Aug-2024	14 days	7 days	✓	17-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) KLK-Ref-1	E581.VH+F1	09-Aug-2024	17-Aug-2024	14 days	8 days	✓	17-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) Ref-1	E581.VH+F1	09-Aug-2024	17-Aug-2024	14 days	8 days	✓	17-Aug-2024	14 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) DUP-F	E358-L	09-Aug-2024	16-Aug-2024	28 days	6 days	✓	16-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) TGT-Ref-1	E358-L	09-Aug-2024	16-Aug-2024	28 days	6 days	✓	16-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) KLK-Ref-1	E358-L	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) Ref-1	E358-L	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) DUP-F	E355-L	09-Aug-2024	15-Aug-2024	28 days	6 days	✓	16-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) TGT-Ref-1	E355-L	09-Aug-2024	15-Aug-2024	28 days	6 days	✓	16-Aug-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) KLK-Ref-1	E355-L	09-Aug-2024	15-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) Ref-1	E355-L	09-Aug-2024	15-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE DUP-F	E290	09-Aug-2024	16-Aug-2024	14 days	7 days	✓	16-Aug-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE KLK-Ref-1	E290	09-Aug-2024	16-Aug-2024	14 days	7 days	✓	16-Aug-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE Ref-1	E290	09-Aug-2024	16-Aug-2024	14 days	7 days	✓	16-Aug-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE TGT-Ref-1	E290	09-Aug-2024	16-Aug-2024	14 days	7 days	✓	16-Aug-2024	14 days	7 days	✓
Physical Tests : Conductivity in Seawater										
HDPE DUP-F	E100S	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Physical Tests : Conductivity in Seawater										
HDPE KLK-Ref-1	E100S	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Physical Tests : Conductivity in Seawater										
HDPE Ref-1	E100S	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Seawater										
HDPE TGT-Ref-1	E100S	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Physical Tests : pH by Meter										
HDPE DUP-F	E108	09-Aug-2024	16-Aug-2024	0.25 hrs	161 hrs	× EHTR-FM	16-Aug-2024	0.25 hrs	164 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE TGT-Ref-1	E108	09-Aug-2024	16-Aug-2024	0.25 hrs	163 hrs	× EHTR-FM	16-Aug-2024	0.25 hrs	166 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE KLK-Ref-1	E108	09-Aug-2024	16-Aug-2024	0.25 hrs	166 hrs	× EHTR-FM	16-Aug-2024	0.25 hrs	169 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE Ref-1	E108	09-Aug-2024	16-Aug-2024	0.25 hrs	166 hrs	× EHTR-FM	16-Aug-2024	0.25 hrs	169 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE DUP-F	E162S	09-Aug-2024	----	----	----		16-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE KLK-Ref-1	E162S	09-Aug-2024	----	----	----		16-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE Ref-1	E162S	09-Aug-2024	----	----	----		16-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE TGT-Ref-1	E162S	09-Aug-2024	----	----	----		16-Aug-2024	7 days	7 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE DUP-F	E160S	09-Aug-2024	----	----	----		16-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE KLK-Ref-1	E160S	09-Aug-2024	----	----	----		16-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE Ref-1	E160S	09-Aug-2024	----	----	----		16-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE TGT-Ref-1	E160S	09-Aug-2024	----	----	----		16-Aug-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE DUP-F	E121	09-Aug-2024	----	----	----		15-Aug-2024	3 days	6 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE KLK-Ref-1	E121	09-Aug-2024	----	----	----		15-Aug-2024	3 days	6 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE Ref-1	E121	09-Aug-2024	----	----	----		15-Aug-2024	3 days	6 days	× EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE TGT-Ref-1	E121	09-Aug-2024	----	----	----		15-Aug-2024	3 days	6 days	× EHTL
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) DUP-F	E641A	09-Aug-2024	16-Aug-2024	14 days	6 days	✓	16-Aug-2024	40 days	0 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) KLK-Ref-1	E641A	09-Aug-2024	16-Aug-2024	14 days	7 days	✓	16-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) Ref-1	E641A	09-Aug-2024	16-Aug-2024	14 days	7 days	✓	16-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) TGT-Ref-1	E641A	09-Aug-2024	16-Aug-2024	14 days	7 days	✓	16-Aug-2024	40 days	0 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) DUP-F	E508S	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) KLK-Ref-1	E508S	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) Ref-1	E508S	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) TGT-Ref-1	E508S	09-Aug-2024	16-Aug-2024	28 days	7 days	✓	16-Aug-2024	28 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) DUP-F	E466S	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	18-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) KLK-Ref-1	E466S	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	18-Aug-2024	180 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) Ref-1	E466S	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	18-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) TGT-Ref-1	E466S	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	18-Aug-2024	180 days	9 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) DUP-F	E468S.NaSi	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	18-Aug-2024	180 days	9 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) KLK-Ref-1	E468S.NaSi	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	18-Aug-2024	180 days	9 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) Ref-1	E468S.NaSi	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	18-Aug-2024	180 days	9 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) TGT-Ref-1	E468S.NaSi	09-Aug-2024	16-Aug-2024	180 days	7 days	✓	18-Aug-2024	180 days	9 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) DUP-F	E611A	09-Aug-2024	17-Aug-2024	14 days	7 days	✓	17-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) TGT-Ref-1	E611A	09-Aug-2024	17-Aug-2024	14 days	7 days	✓	17-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) KLK-Ref-1	E611A	09-Aug-2024	17-Aug-2024	14 days	8 days	✓	17-Aug-2024	14 days	8 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
Ref-1	E611A	09-Aug-2024	17-Aug-2024	14 days	8 days	✓	17-Aug-2024	14 days	8 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1599354	1	6	16.6	5.0	✓
Ammonia by Fluorescence	E298	1598937	1	15	6.6	5.0	✓
Bromide in Seawater by IC	E235S.Br	1599363	1	4	25.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1601328	1	20	5.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1599361	1	6	16.6	5.0	✓
Conductivity in Seawater	E100S	1599353	1	20	5.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1605820	1	4	25.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1599614	1	6	16.6	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1598934	1	4	25.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1599611	1	6	16.6	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1599364	1	4	25.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1599358	1	6	16.6	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1599359	1	6	16.6	5.0	✓
pH by Meter	E108	1599355	1	20	5.0	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1599365	1	4	25.0	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1601040	1	4	25.0	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1598936	1	15	6.6	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1598938	1	4	25.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1601043	1	11	9.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1599646	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1598935	1	4	25.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1598939	1	15	6.6	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1599644	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1598383	1	14	7.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1601327	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1599354	1	6	16.6	5.0	✓
Ammonia by Fluorescence	E298	1598937	1	15	6.6	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1599079	1	19	5.2	5.0	✓
Bromide in Seawater by IC	E235S.Br	1599363	1	4	25.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1601328	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1599081	1	4	25.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1599361	1	6	16.6	5.0	✓
Conductivity in Seawater	E100S	1599353	1	20	5.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1605820	1	4	25.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1599614	1	6	16.6	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1598934	1	4	25.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1599611	1	6	16.6	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1599364	1	4	25.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1599358	1	6	16.6	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1599359	1	6	16.6	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1599080	1	10	10.0	5.0	✓
pH by Meter	E108	1599355	1	20	5.0	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1599365	1	4	25.0	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1601040	1	4	25.0	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1598936	1	15	6.6	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1598938	1	4	25.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1601043	1	11	9.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1599646	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1598935	1	4	25.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1598939	1	15	6.6	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1599644	1	20	5.0	5.0	✓
TSS by Gravimetry (Seawater)	E160S	1601038	1	4	25.0	5.0	✓
Turbidity by Nephelometry	E121	1598383	1	14	7.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1601327	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1599354	1	6	16.6	5.0	✓
Ammonia by Fluorescence	E298	1598937	1	15	6.6	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1599079	1	19	5.2	5.0	✓
Bromide in Seawater by IC	E235S.Br	1599363	1	4	25.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1601328	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1599081	1	4	25.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1599361	1	6	16.6	5.0	✓
Conductivity in Seawater	E100S	1599353	1	20	5.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1605820	1	4	25.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1599614	1	6	16.6	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1598934	1	4	25.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1599611	1	6	16.6	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1599364	1	4	25.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1599358	1	6	16.6	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1599359	1	6	16.6	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1599080	1	10	10.0	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1599365	1	4	25.0	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1601040	1	4	25.0	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1598936	1	15	6.6	5.0	✓

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1598938	1	4	25.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1601043	1	11	9.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1599646	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1598935	1	4	25.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1598939	1	15	6.6	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1599644	1	20	5.0	5.0	✓
TSS by Gravimetry (Seawater)	E160S	1601038	1	4	25.0	5.0	✓
Turbidity by Nephelometry	E121	1598383	1	14	7.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1601327	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1598937	1	15	6.6	5.0	✓
Bromide in Seawater by IC	E235S.Br	1599363	1	4	25.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1601328	1	20	5.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1599361	1	6	16.6	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1605820	1	4	25.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1599614	1	6	16.6	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1598934	1	4	25.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1599611	1	6	16.6	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1599364	1	4	25.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1599358	1	6	16.6	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1599359	1	6	16.6	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1599365	1	4	25.0	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1598936	1	15	6.6	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1598938	1	4	25.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1601043	1	11	9.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1599646	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1598935	1	4	25.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1598939	1	15	6.6	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1599644	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1601327	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Seawater	E100S ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TSS by Gravimetry (Seawater)	E160S ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids.
TDS by Gravimetry (Seawater)	E162S ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Seawater by IC	E235S.Br ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Seawater by IC	E235S.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Seawater by IC (Low Level)	E235S.F-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	TKN in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Dissolved Phosphorus is determined colourimetrically using a discrete analyzer after filtration through a 0.45 micron filter followed by heated persulfate digestion of the sample.
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Triple Quadrupole ICPMS.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Metals in Seawater by Triple Quad ICPMS	E466S ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Triple Quadrupole ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
Total Mercury in Seawater by CVAAS	E508S ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Seawater samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Mercury in Seawater by CVAAS	E509S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Seawater samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Water	BC MOE Lab Manual	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
BTEX by Headspace GC-MS	E611A ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Salinity in Water (calculation)	EC100S ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
F1-BTEX	EC580 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for TKN in Seawater	EP318S ALS Environmental - Vancouver	Water	APHA 4500-Norg D (mod)	Samples are digested at high temperature using Sulfuric Acid with Copper catalyst, which converts organic nitrogen sources to Ammonia, which is then quantified by the analytical method as TKN. This method is unsuitable for samples containing high levels of nitrate. If nitrate exceeds TKN concentration by ten times or more, results may be biased low.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Digestion for Dissolved Phosphorus in water	EP375 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are filtered through a 0.45 micron membrane filter and then heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Metals Seawater Filtration	EP421S ALS Environmental - Vancouver	Water	PUGET SOUND PROTOCOLS, EPA 6020A	This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by Collision/Reaction Cell ICPMS.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: **YL2401157**	Page	: 1 of 21
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Connor Pettem	Account Manager	: Amber Springer
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Project	: CA0026317.6821/86000/03	Date Samples Received	: 12-Aug-2024 11:24
PO	: ----	Date Analysis Commenced	: 15-Aug-2024
C-O-C number	: ----	Issue Date	: 23-Aug-2024 13:12
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Angelo Salandanan	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
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General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1598383)											
VA24C0512-003	Anonymous	Turbidity	----	E121	0.10	NTU	0.33	0.34	0.008	Diff <2x LOR	----
Physical Tests (QC Lot: 1599353)											
VA24C0462-003	Anonymous	Conductivity	----	E100S	2.0	µS/cm	10200	9930	2.19%	20%	----
Physical Tests (QC Lot: 1599354)											
VA24C0462-003	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	37.4	37.2	0.536%	20%	----
Physical Tests (QC Lot: 1599355)											
VA24C0462-003	Anonymous	pH	----	E108	0.10	pH units	9.18	9.05	1.43%	4%	----
Physical Tests (QC Lot: 1601040)											
YL2401157-001	Ref-1	Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	<10	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1598936)											
VA24C0463-005	Anonymous	Phosphorus, total dissolved	7723-14-0	E375-T	0.0020	mg/L	0.0349	0.0339	2.97%	20%	----
Anions and Nutrients (QC Lot: 1598937)											
VA24C0463-005	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0050	<0.0050	0.00002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1598938)											
YL2401157-001	Ref-1	Kjeldahl nitrogen, total [TKN]	----	E318S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1598939)											
VA24C0463-005	Anonymous	Phosphorus, total	7723-14-0	E372S	0.0020	mg/L	0.0346	0.0342	1.25%	20%	----
Anions and Nutrients (QC Lot: 1599358)											
VA24C0462-003	Anonymous	Nitrate (as N)	14797-55-8	E235S.NO3-T	0.010	mg/L	<0.010	0.011	0.0010	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1599359)											
VA24C0462-003	Anonymous	Nitrite (as N)	14797-65-0	E235S.NO2-L	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1599361)											
VA24C0462-003	Anonymous	Chloride	16887-00-6	E235S.Cl	50	mg/L	3100	3100	0.173%	20%	----
Anions and Nutrients (QC Lot: 1599363)											
YL2401157-001	Ref-1	Bromide	24959-67-9	E235S.Br	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1599364)											
YL2401157-001	Ref-1	Fluoride	16984-48-8	E235S.F-L	0.20	mg/L	<0.20	<0.20	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1599365)											
YL2401157-001	Ref-1	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1598934)											

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Organic / Inorganic Carbon (QC Lot: 1598934) - continued											
YL2401157-001	Ref-1	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1598935)											
YL2401157-001	Ref-1	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Total Metals (QC Lot: 1599644)											
VA24C0462-003	Anonymous	Silicon, total	7440-21-3	E468S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	1640	1650	0.382%	20%	----
Total Metals (QC Lot: 1599646)											
VA24C0462-003	Anonymous	Aluminum, total	7429-90-5	E466S	0.0050	mg/L	0.0072	0.0072	0.00006	Diff <2x LOR	----
		Antimony, total	7440-36-0	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E466S	0.00040	mg/L	0.00088	0.00083	0.00005	Diff <2x LOR	----
		Barium, total	7440-39-3	E466S	0.0010	mg/L	0.0183	0.0182	0.570%	20%	----
		Beryllium, total	7440-41-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E466S	0.30	mg/L	0.77	0.80	0.03	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E466S	0.000020	mg/L	0.000357	0.000408	13.1%	20%	----
		Calcium, total	7440-70-2	E466S	1.0	mg/L	241	236	2.20%	20%	----
		Cesium, total	7440-46-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E466S	0.000050	mg/L	0.000222	0.000214	0.000008	Diff <2x LOR	----
		Copper, total	7440-50-8	E466S	0.00050	mg/L	0.00315	0.00302	0.00013	Diff <2x LOR	----
		Gallium, total	7440-55-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E466S	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, total	7439-92-1	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E466S	0.020	mg/L	0.029	0.028	0.0004	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E466S	1.0	mg/L	220	216	1.98%	20%	----
		Manganese, total	7439-96-5	E466S	0.00020	mg/L	0.00107	0.00106	0.00001	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E466S	0.00010	mg/L	0.00338	0.00335	0.932%	20%	----
		Nickel, total	7440-02-0	E466S	0.00050	mg/L	0.00077	0.00073	0.00004	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E466S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E466S	1.0	mg/L	51.3	50.5	1.73%	20%	----
		Rhenium, total	7440-15-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E466S	0.0050	mg/L	0.0123	0.0121	0.0002	Diff <2x LOR	----
		Selenium, total	7782-49-2	E466S	0.00050	mg/L	0.00090	0.00078	0.00012	Diff <2x LOR	----
		Silver, total	7440-22-4	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1599646) - continued											
VA24C0462-003	Anonymous	Strontium, total	7440-24-6	E466S	0.010	mg/L	2.29	2.27	0.858%	20%	----
		Sulfur, total	7704-34-9	E466S	5.0	mg/L	292	295	1.01%	20%	----
		Tellurium, total	13494-80-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E466S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E466S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E466S	0.000050	mg/L	0.000563	0.000564	0.278%	20%	----
		Vanadium, total	7440-62-2	E466S	0.00050	mg/L	0.00127	0.00120	0.00006	Diff <2x LOR	----
		Yttrium, total	7440-65-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E466S	0.0030	mg/L	0.0169	0.0164	0.0004	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1601043)											
VA24C0194-001	Anonymous	Mercury, total	7439-97-6	E508S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1599611)											
VA24C0462-003	Anonymous	Silicon, dissolved	7440-21-3	E469S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	1580	1540	2.56%	20%	----
Dissolved Metals (QC Lot: 1599614)											
VA24C0462-003	Anonymous	Aluminum, dissolved	7429-90-5	E465S	0.0050	mg/L	<0.0050	0.0051	0.0001	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E465S	0.00040	mg/L	0.00089	0.00081	0.00007	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E465S	0.0010	mg/L	0.0181	0.0185	1.90%	20%	----
		Beryllium, dissolved	7440-41-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E465S	0.30	mg/L	0.84	0.88	0.04	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E465S	0.000020	mg/L	0.000229	0.000257	11.3%	20%	----
		Calcium, dissolved	7440-70-2	E465S	1.0	mg/L	238	238	0.0732%	20%	----
		Cesium, dissolved	7440-46-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E465S	0.000050	mg/L	0.000186	0.000178	0.000008	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E465S	0.00050	mg/L	0.00269	0.00278	0.00010	Diff <2x LOR	----
		Gallium, dissolved	7440-55-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E465S	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Dissolved Metals (QC Lot: 1599614) - continued											
VA24C0462-003	Anonymous	Lead, dissolved	7439-92-1	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E465S	0.020	mg/L	0.028	0.028	0.00008	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E465S	1.0	mg/L	219	221	1.13%	20%	----
		Manganese, dissolved	7439-96-5	E465S	0.00010	mg/L	0.00029	0.00027	0.00002	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E465S	0.00010	mg/L	0.00306	0.00312	1.84%	20%	----
		Nickel, dissolved	7440-02-0	E465S	0.00050	mg/L	0.00055	0.00053	0.00002	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E465S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E465S	1.0	mg/L	50.4	51.4	1.83%	20%	----
		Rhenium, dissolved	7440-15-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E465S	0.0050	mg/L	0.0118	0.0117	0.00003	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E465S	0.00050	mg/L	0.00090	0.00095	0.00004	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E465S	0.010	mg/L	2.19	2.18	0.519%	20%	----
		Sulfur, dissolved	7704-34-9	E465S	5.0	mg/L	292	287	1.75%	20%	----
		Tellurium, dissolved	13494-80-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E465S	0.000050	mg/L	0.000585	0.000601	2.68%	20%	----
		Vanadium, dissolved	7440-62-2	E465S	0.00050	mg/L	0.00124	0.00119	0.00004	Diff <2x LOR	----
		Yttrium, dissolved	7440-65-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E465S	0.0010	mg/L	0.0100	0.0096	0.0004	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1605820)											
YL2401157-001	Ref-1	Mercury, dissolved	7439-97-6	E509S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1601328)											
VA24C0791-001	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	µg/L	2.17	2.04	0.14	Diff <2x LOR	----
		Styrene	100-42-5	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	0.72	0.67	0.05	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Volatile Organic Compounds (QC Lot: 1601328) - continued											
VA24C0791-001	Anonymous	Xylene, o-	95-47-6	E611A	0.30	µg/L	0.38	0.36	0.02	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1601327)											
VA24C0791-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----
		VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1598383)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1599353)						
Conductivity	----	E100S	2	µS/cm	<2.0	----
Physical Tests (QCLot: 1599354)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1601038)						
Solids, total suspended [TSS]	----	E160S	2	mg/L	<2.0	----
Physical Tests (QCLot: 1601040)						
Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	----
Anions and Nutrients (QCLot: 1598936)						
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1598937)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1598938)						
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1598939)						
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1599358)						
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1599359)						
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1599361)						
Chloride	16887-00-6	E235S.Cl	50	mg/L	<50	----
Anions and Nutrients (QCLot: 1599363)						
Bromide	24959-67-9	E235S.Br	5	mg/L	<5.0	----
Anions and Nutrients (QCLot: 1599364)						
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	<2.00	----
Anions and Nutrients (QCLot: 1599365)						
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	<30.0	----
Organic / Inorganic Carbon (QCLot: 1598934)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1598935)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1598935) - continued						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1599644)						
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	<1.0	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	<2.5	----
Total Metals (QCLot: 1599646)						
Aluminum, total	7429-90-5	E466S	0.005	mg/L	<0.0050	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	<0.0010	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	<0.00040	----
Barium, total	7440-39-3	E466S	0.001	mg/L	<0.0010	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	<0.00050	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	<0.00050	----
Boron, total	7440-42-8	E466S	0.3	mg/L	<0.30	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	<0.000020	----
Calcium, total	7440-70-2	E466S	1	mg/L	<1.0	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	<0.00050	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	<0.000050	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	<0.00050	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E466S	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	<0.00010	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	<0.020	----
Magnesium, total	7439-95-4	E466S	1	mg/L	<1.0	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	<0.00020	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	<0.00010	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E466S	1	mg/L	<1.0	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	<0.00050	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	<0.0050	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	<0.00050	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	<0.00010	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	<0.010	----
Sulfur, total	7704-34-9	E466S	5	mg/L	<5.0	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	<0.00050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1599646) - continued						
Thallium, total	7440-28-0	E466S	0.00005	mg/L	<0.000050	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	<0.00050	----
Tin, total	7440-31-5	E466S	0.001	mg/L	<0.0010	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	<0.0050	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	<0.0010	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	<0.000050	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	<0.00050	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	<0.00050	----
Total Metals (QCLot: 1601043)						
Mercury, total	7439-97-6	E508S	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1599611)						
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	<1.0	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	<2.5	----
Dissolved Metals (QCLot: 1599614)						
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	<0.0050	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	<0.0010	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	<0.00040	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	<0.0010	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	<0.00050	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	<0.00050	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	<0.30	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	<0.000020	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	<1.0	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	<0.00050	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	<0.000050	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	<0.00050	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	<0.00050	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	<0.00010	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	<0.020	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	<1.0	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1599614) - continued						
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	<0.00010	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	<1.0	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	<0.00050	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	<0.0050	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	<0.00050	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	<0.00010	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	<0.010	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	<5.0	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	<0.00050	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	<0.000050	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	<0.00050	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	<0.0010	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	<0.0050	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	<0.0010	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	<0.000050	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	<0.00050	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	<0.00050	----
Dissolved Metals (QCLot: 1605820)						
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1601328)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1599079)						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
Hydrocarbons (QCLot: 1599081)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Hydrocarbons (QCLot: 1599081) - continued						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Hydrocarbons (QCLot: 1601327)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1599080)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1598383)									
Turbidity	----	E121	0.1	NTU	200 NTU	96.5	85.0	115	----
Physical Tests (QCLot: 1599353)									
Conductivity	----	E100S	2	µS/cm	147 µS/cm	98.9	80.0	120	----
Physical Tests (QCLot: 1599354)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	103	85.0	115	----
Physical Tests (QCLot: 1599355)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1601038)									
Solids, total suspended [TSS]	----	E160S	2	mg/L	150 mg/L	87.7	85.0	115	----
Physical Tests (QCLot: 1601040)									
Solids, total dissolved [TDS]	----	E162S	10	mg/L	1000 mg/L	100	85.0	115	----
Anions and Nutrients (QCLot: 1598936)									
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	0.05 mg/L	92.2	80.0	120	----
Anions and Nutrients (QCLot: 1598937)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	97.7	85.0	115	----
Anions and Nutrients (QCLot: 1598938)									
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	4 mg/L	106	75.0	125	----
Anions and Nutrients (QCLot: 1598939)									
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	0.05 mg/L	92.5	80.0	120	----
Anions and Nutrients (QCLot: 1599358)									
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	2.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1599359)									
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	0.5 mg/L	97.7	90.0	110	----
Anions and Nutrients (QCLot: 1599361)									
Chloride	16887-00-6	E235S.Cl	50	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1599363)									
Bromide	24959-67-9	E235S.Br	5	mg/L	0.5 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1599364)									
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	1 mg/L	98.8	90.0	110	----
Anions and Nutrients (QCLot: 1599365)									
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	100 mg/L	102	90.0	110	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Organic / Inorganic Carbon (QCLot: 1598934)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	99.8	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1598935)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	94.7	80.0	120	----
Total Metals (QCLot: 1599644)									
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	10 mg/L	110	80.0	120	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	50 mg/L	99.5	80.0	120	----
Total Metals (QCLot: 1599646)									
Aluminum, total	7429-90-5	E466S	0.005	mg/L	2 mg/L	105	80.0	120	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	1 mg/L	105	80.0	120	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	1 mg/L	108	80.0	120	----
Barium, total	7440-39-3	E466S	0.001	mg/L	0.25 mg/L	107	80.0	120	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	0.1 mg/L	104	80.0	120	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	1 mg/L	104	80.0	120	----
Boron, total	7440-42-8	E466S	0.3	mg/L	1 mg/L	97.0	80.0	120	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	0.1 mg/L	104	80.0	120	----
Calcium, total	7440-70-2	E466S	1	mg/L	50 mg/L	98.7	80.0	120	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	0.05 mg/L	105	80.0	120	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	0.25 mg/L	104	80.0	120	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	0.25 mg/L	101	80.0	120	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	0.25 mg/L	99.4	80.0	120	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	0.25 mg/L	101	80.0	120	----
Iron, total	7439-89-6	E466S	0.01	mg/L	1 mg/L	103	80.0	120	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	0.5 mg/L	103	80.0	120	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	0.25 mg/L	104	80.0	120	----
Magnesium, total	7439-95-4	E466S	1	mg/L	50 mg/L	111	80.0	120	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	0.25 mg/L	99.9	80.0	120	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	0.5 mg/L	101	80.0	120	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	10 mg/L	110	80.0	120	----
Potassium, total	7440-09-7	E466S	1	mg/L	50 mg/L	103	80.0	120	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	0.1 mg/L	106	80.0	120	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	0.1 mg/L	101	80.0	120	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	1 mg/L	104	80.0	120	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	0.1 mg/L	95.6	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1599646) - continued									
Strontium, total	7440-24-6	E466S	0.01	mg/L	0.25 mg/L	103	80.0	120	----
Sulfur, total	7704-34-9	E466S	5	mg/L	50 mg/L	112	80.0	120	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	0.1 mg/L	104	80.0	120	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	1 mg/L	103	80.0	120	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	0.1 mg/L	98.0	80.0	120	----
Tin, total	7440-31-5	E466S	0.001	mg/L	0.5 mg/L	104	80.0	120	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	0.25 mg/L	105	80.0	120	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	0.1 mg/L	101	80.0	120	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	0.1 mg/L	105	80.0	120	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	0.5 mg/L	102	80.0	120	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	0.1 mg/L	101	80.0	120	----
Total Metals (QCLot: 1601043)									
Mercury, total	7439-97-6	E508S	0.000005	mg/L	0 mg/L	97.1	80.0	120	----
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	10 mg/L	111	80.0	120	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	50 mg/L	105	80.0	120	----
Dissolved Metals (QCLot: 1599614)									
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	2 mg/L	93.7	80.0	120	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	1 mg/L	103	80.0	120	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	1 mg/L	102	80.0	120	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	0.25 mg/L	105	80.0	120	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	0.1 mg/L	99.4	80.0	120	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	1 mg/L	100	80.0	120	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	1 mg/L	102	80.0	120	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	0.1 mg/L	99.5	80.0	120	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	50 mg/L	98.4	80.0	120	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	0.05 mg/L	102	80.0	120	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	0.25 mg/L	94.0	80.0	120	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	0.25 mg/L	92.8	80.0	120	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	0.25 mg/L	90.4	80.0	120	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	0.25 mg/L	98.2	80.0	120	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	1 mg/L	94.2	80.0	120	----
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	0.5 mg/L	96.9	80.0	120	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	0.25 mg/L	102	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1599614) - continued									
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	50 mg/L	106	80.0	120	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	0.25 mg/L	90.7	80.0	120	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	0.25 mg/L	91.4	80.0	120	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	0.5 mg/L	93.4	80.0	120	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	10 mg/L	103	80.0	120	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	50 mg/L	99.1	80.0	120	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	0.1 mg/L	103	80.0	120	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	0.1 mg/L	91.4	80.0	120	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	1 mg/L	102	80.0	120	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	0.1 mg/L	91.9	80.0	120	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	0.25 mg/L	92.5	80.0	120	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	50 mg/L	106	80.0	120	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	0.1 mg/L	99.0	80.0	120	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	1 mg/L	98.5	80.0	120	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	0.1 mg/L	102	80.0	120	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	0.5 mg/L	99.8	80.0	120	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	0.25 mg/L	98.3	80.0	120	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	0.1 mg/L	98.1	80.0	120	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	0.005 mg/L	97.5	80.0	120	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	0.5 mg/L	94.5	80.0	120	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	0.1 mg/L	97.8	80.0	120	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	0.5 mg/L	91.9	80.0	120	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	0.1 mg/L	96.4	80.0	120	----
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	0 mg/L	100	80.0	120	----
Volatile Organic Compounds (QCLot: 1601328)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	107	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	110	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	106	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	99.1	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	115	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	118	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	108	70.0	130	----
Hydrocarbons (QCLot: 1599079)									
EPH (C10-C19)	----	E601A	250	µg/L	6490 µg/L	96.7	70.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Hydrocarbons (QCLot: 1599079) - continued									
EPH (C19-C32)	----	E601A	250	µg/L	3360 µg/L	103	70.0	130	----
Hydrocarbons (QCLot: 1599081)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	104	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	100	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	106	70.0	130	----
Hydrocarbons (QCLot: 1601327)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	106	70.0	130	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	107	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1599080)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	90.8	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	95.6	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	90.5	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	94.3	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	81.3	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	93.4	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	80.9	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	93.2	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	94.1	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	95.0	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	90.6	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	88.9	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	93.0	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	80.5	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	90.5	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	91.6	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	87.0	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	95.6	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	87.3	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	96.3	60.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1598936)										
VA24C0463-006	Anonymous	Phosphorus, total dissolved	7723-14-0	E375-T	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1598937)										
VA24C0463-006	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.105 mg/L	0.1 mg/L	105	75.0	125	----
Anions and Nutrients (QCLot: 1598938)										
YL2401157-002	KLK-Ref-1	Kjeldahl nitrogen, total [TKN]	----	E318S	5.47 mg/L	5 mg/L	109	70.0	130	----
Anions and Nutrients (QCLot: 1598939)										
VA24C0463-006	Anonymous	Phosphorus, total	7723-14-0	E372S	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1599358)										
VA24C0462-004	Anonymous	Nitrate (as N)	14797-55-8	E235S.NO3-T	7.71 mg/L	7.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1599359)										
VA24C0462-004	Anonymous	Nitrite (as N)	14797-65-0	E235S.NO2-L	1.50 mg/L	1.5 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1599361)										
VA24C0462-004	Anonymous	Chloride	16887-00-6	E235S.Cl	10200 mg/L	10000 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1599363)										
YL2401157-002	KLK-Ref-1	Bromide	24959-67-9	E235S.Br	52.9 mg/L	50 mg/L	106	75.0	125	----
Anions and Nutrients (QCLot: 1599364)										
YL2401157-002	KLK-Ref-1	Fluoride	16984-48-8	E235S.F-L	10.0 mg/L	10 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1599365)										
YL2401157-002	KLK-Ref-1	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1598934)										
YL2401157-002	KLK-Ref-1	Carbon, dissolved organic [DOC]	----	E358-L	4.86 mg/L	5 mg/L	97.2	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1598935)										
YL2401157-002	KLK-Ref-1	Carbon, total organic [TOC]	----	E355-L	4.88 mg/L	5 mg/L	97.5	70.0	130	----
Total Metals (QCLot: 1599644)										
VA24C0462-004	Anonymous	Silicon, total	7440-21-3	E468S.NaSi	504 mg/L	500 mg/L	101	70.0	130	----
		Sodium, total	7440-23-5	E468S.NaSi	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1599646)										
VA24C0462-004	Anonymous	Aluminum, total	7429-90-5	E466S	4.05 mg/L	4 mg/L	101	70.0	130	----
		Antimony, total	7440-36-0	E466S	0.381 mg/L	0.4 mg/L	95.2	70.0	130	----
		Arsenic, total	7440-38-2	E466S	0.410 mg/L	0.4 mg/L	102	70.0	130	----
		Barium, total	7440-39-3	E466S	0.400 mg/L	0.4 mg/L	100	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1599646) - continued										
VA24C0462-004	Anonymous	Beryllium, total	7440-41-7	E466S	0.792 mg/L	0.8 mg/L	99.1	70.0	130	----
		Bismuth, total	7440-69-9	E466S	0.188 mg/L	0.2 mg/L	94.3	70.0	130	----
		Boron, total	7440-42-8	E466S	1.92 mg/L	2 mg/L	96.1	70.0	130	----
		Cadmium, total	7440-43-9	E466S	0.0780 mg/L	0.08 mg/L	97.5	70.0	130	----
		Calcium, total	7440-70-2	E466S	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E466S	0.194 mg/L	0.2 mg/L	97.0	70.0	130	----
		Chromium, total	7440-47-3	E466S	0.799 mg/L	0.8 mg/L	99.9	70.0	130	----
		Cobalt, total	7440-48-4	E466S	0.387 mg/L	0.4 mg/L	96.7	70.0	130	----
		Copper, total	7440-50-8	E466S	0.373 mg/L	0.4 mg/L	93.4	70.0	130	----
		Gallium, total	7440-55-3	E466S	0.0486 mg/L	0.05 mg/L	97.3	70.0	130	----
		Iron, total	7439-89-6	E466S	39.4 mg/L	40 mg/L	98.6	70.0	130	----
		Lead, total	7439-92-1	E466S	0.374 mg/L	0.4 mg/L	93.4	70.0	130	----
		Lithium, total	7439-93-2	E466S	2.03 mg/L	2 mg/L	101	70.0	130	----
		Magnesium, total	7439-95-4	E466S	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E466S	0.390 mg/L	0.4 mg/L	97.5	70.0	130	----
		Molybdenum, total	7439-98-7	E466S	0.402 mg/L	0.4 mg/L	100	70.0	130	----
		Nickel, total	7440-02-0	E466S	0.763 mg/L	0.8 mg/L	95.4	70.0	130	----
		Phosphorus, total	7723-14-0	E466S	204 mg/L	200 mg/L	102	70.0	130	----
		Potassium, total	7440-09-7	E466S	76.5 mg/L	80 mg/L	95.6	70.0	130	----
		Rhenium, total	7440-15-5	E466S	0.0485 mg/L	0.05 mg/L	97.1	70.0	130	----
		Rubidium, total	7440-17-7	E466S	0.395 mg/L	0.4 mg/L	98.7	70.0	130	----
		Selenium, total	7782-49-2	E466S	0.814 mg/L	0.8 mg/L	102	70.0	130	----
		Silver, total	7440-22-4	E466S	0.0753 mg/L	0.08 mg/L	94.1	70.0	130	----
		Strontium, total	7440-24-6	E466S	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E466S	383 mg/L	400 mg/L	95.8	70.0	130	----
		Tellurium, total	13494-80-9	E466S	0.766 mg/L	0.8 mg/L	95.7	70.0	130	----
		Thallium, total	7440-28-0	E466S	0.0738 mg/L	0.08 mg/L	92.3	70.0	130	----
		Thorium, total	7440-29-1	E466S	0.349 mg/L	0.4 mg/L	87.3	70.0	130	----
		Tin, total	7440-31-5	E466S	0.383 mg/L	0.4 mg/L	95.7	70.0	130	----
		Titanium, total	7440-32-6	E466S	0.786 mg/L	0.8 mg/L	98.2	70.0	130	----
		Tungsten, total	7440-33-7	E466S	0.380 mg/L	0.4 mg/L	95.1	70.0	130	----
		Uranium, total	7440-61-1	E466S	0.0784 mg/L	0.08 mg/L	98.0	70.0	130	----
		Vanadium, total	7440-62-2	E466S	2.02 mg/L	2 mg/L	101	70.0	130	----
		Yttrium, total	7440-65-5	E466S	0.0490 mg/L	0.05 mg/L	98.0	70.0	130	----
		Zinc, total	7440-66-6	E466S	7.86 mg/L	8 mg/L	98.2	70.0	130	----
		Zirconium, total	7440-67-7	E466S	0.734 mg/L	0.8 mg/L	91.8	70.0	130	----
Total Metals (QCLot: 1601043)										
VA24C0194-002	Anonymous	Mercury, total	7439-97-6	E508S	0.0000976 mg/L	0 mg/L	97.6	70.0	130	----
Dissolved Metals (QCLot: 1599611)										
VA24C0462-004	Anonymous	Silicon, dissolved	7440-21-3	E469S.NaSi	494 mg/L	500 mg/L	98.8	70.0	130	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	ND mg/L	----	ND	70.0	130	----
Dissolved Metals (QCLot: 1599614)										
VA24C0462-004	Anonymous	Aluminum, dissolved	7429-90-5	E465S	3.72 mg/L	4 mg/L	93.0	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1599614) - continued										
VA24C0462-004	Anonymous	Antimony, dissolved	7440-36-0	E465S	0.386 mg/L	0.4 mg/L	96.5	70.0	130	----
		Arsenic, dissolved	7440-38-2	E465S	0.405 mg/L	0.4 mg/L	101	70.0	130	----
		Barium, dissolved	7440-39-3	E465S	0.412 mg/L	0.4 mg/L	103	70.0	130	----
		Beryllium, dissolved	7440-41-7	E465S	0.760 mg/L	0.8 mg/L	95.0	70.0	130	----
		Bismuth, dissolved	7440-69-9	E465S	0.181 mg/L	0.2 mg/L	90.7	70.0	130	----
		Boron, dissolved	7440-42-8	E465S	2.12 mg/L	2 mg/L	106	70.0	130	----
		Cadmium, dissolved	7440-43-9	E465S	0.0771 mg/L	0.08 mg/L	96.4	70.0	130	----
		Calcium, dissolved	7440-70-2	E465S	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E465S	0.201 mg/L	0.2 mg/L	100	70.0	130	----
		Chromium, dissolved	7440-47-3	E465S	0.761 mg/L	0.8 mg/L	95.1	70.0	130	----
		Cobalt, dissolved	7440-48-4	E465S	0.363 mg/L	0.4 mg/L	90.7	70.0	130	----
		Copper, dissolved	7440-50-8	E465S	0.353 mg/L	0.4 mg/L	88.2	70.0	130	----
		Gallium, dissolved	7440-55-3	E465S	0.0485 mg/L	0.05 mg/L	97.0	70.0	130	----
		Iron, dissolved	7439-89-6	E465S	36.9 mg/L	40 mg/L	92.2	70.0	130	----
		Lead, dissolved	7439-92-1	E465S	0.363 mg/L	0.4 mg/L	90.7	70.0	130	----
		Lithium, dissolved	7439-93-2	E465S	2.05 mg/L	2 mg/L	102	70.0	130	----
		Magnesium, dissolved	7439-95-4	E465S	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E465S	0.363 mg/L	0.4 mg/L	90.8	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E465S	0.369 mg/L	0.4 mg/L	92.3	70.0	130	----
		Nickel, dissolved	7440-02-0	E465S	0.720 mg/L	0.8 mg/L	90.0	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E465S	202 mg/L	200 mg/L	101	70.0	130	----
		Potassium, dissolved	7440-09-7	E465S	76.4 mg/L	80 mg/L	95.5	70.0	130	----
		Rhenium, dissolved	7440-15-5	E465S	0.0491 mg/L	0.05 mg/L	98.2	70.0	130	----
		Rubidium, dissolved	7440-17-7	E465S	0.366 mg/L	0.4 mg/L	91.5	70.0	130	----
		Selenium, dissolved	7782-49-2	E465S	0.819 mg/L	0.8 mg/L	102	70.0	130	----
		Silver, dissolved	7440-22-4	E465S	0.0743 mg/L	0.08 mg/L	92.9	70.0	130	----
		Strontium, dissolved	7440-24-6	E465S	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E465S	383 mg/L	400 mg/L	95.7	70.0	130	----
		Tellurium, dissolved	13494-80-9	E465S	0.779 mg/L	0.8 mg/L	97.4	70.0	130	----
		Thallium, dissolved	7440-28-0	E465S	0.0725 mg/L	0.08 mg/L	90.6	70.0	130	----
		Thorium, dissolved	7440-29-1	E465S	0.364 mg/L	0.4 mg/L	91.1	70.0	130	----
		Tin, dissolved	7440-31-5	E465S	0.387 mg/L	0.4 mg/L	96.7	70.0	130	----
		Titanium, dissolved	7440-32-6	E465S	0.777 mg/L	0.8 mg/L	97.1	70.0	130	----
		Tungsten, dissolved	7440-33-7	E465S	0.373 mg/L	0.4 mg/L	93.2	70.0	130	----
		Uranium, dissolved	7440-61-1	E465S	0.0802 mg/L	0.08 mg/L	100	70.0	130	----
		Vanadium, dissolved	7440-62-2	E465S	1.91 mg/L	2 mg/L	95.6	70.0	130	----
		Yttrium, dissolved	7440-65-5	E465S	0.0477 mg/L	0.05 mg/L	95.3	70.0	130	----
		Zinc, dissolved	7440-66-6	E465S	7.35 mg/L	8 mg/L	91.9	70.0	130	----
		Zirconium, dissolved	7440-67-7	E465S	0.714 mg/L	0.8 mg/L	89.2	70.0	130	----
Dissolved Metals (QCLot: 1605820)										
YL2401157-002	KLK-Ref-1	Mercury, dissolved	7439-97-6	E509S	0.000100 mg/L	0 mg/L	100	70.0	130	----
Volatile Organic Compounds (QCLot: 1601328)										
VA24C0791-005	Anonymous	Benzene	71-43-2	E611A	96.5 µg/L	100 µg/L	96.5	60.0	140	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*Concentration*	*Target*	*MS*	*Low*	*High*	*Qualifier*
Volatile Organic Compounds (QCLot: 1601328) - continued										
VA24C0791-005	Anonymous	Ethylbenzene	100-41-4	E611A	104 µg/L	100 µg/L	104	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	102 µg/L	100 µg/L	102	60.0	140	----
		Styrene	100-42-5	E611A	94.2 µg/L	100 µg/L	94.2	60.0	140	----
		Toluene	108-88-3	E611A	108 µg/L	100 µg/L	108	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	220 µg/L	200 µg/L	110	60.0	140	----
		Xylene, o-	95-47-6	E611A	103 µg/L	100 µg/L	103	60.0	140	----
Hydrocarbons (QCLot: 1601327)										
VA24C0791-003	Anonymous	F1 (C6-C10)	----	E581.VH+F1	6010 µg/L	6310 µg/L	95.3	60.0	140	----
		VHw (C6-C10)	----	E581.VH+F1	6040 µg/L	6310 µg/L	95.7	60.0	140	----

Chain of Custody (COC) / Analytical Request Form

COC Number: 21 -

Page 1 of 1

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Canada Toll Free: 1 800 668 9878

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	~~Elaine Irving~~/Connor Pettem
Phone:	1-604-297-2030/1-604-296-4200
	Company address below will appear on the final report
Street:	840 Howe Street, 10th Floor
City/Province:	Vancouver, BC
Postal Code:	V6Z 2M1
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	
Contact:	

Reports / Recipients	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☐ YES ☐ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	~~elaine.irving@wsp.com~~
Email 2	connor.pettem@wsp.com
Email 3	trish.tomliens@wsp.com

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	
Email 2	

Turnaround Time (TAT) Requested
☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests.

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, please contact your AM to confirm availability.

Project Information	
ALS Account # / Quote #:	
Job #:	GOLD100-011
PO / AFE:	CA0026317.6821/86000/03
LSD:	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (ALS use only):

ALS Contact: Amber Springer Sampler: TT/MR/DV

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	General (alkalinity, turbidity, cond.)	Anions, TOC, DOC, Hard., Salinity	pH, TSS, TDS, Ammonia, TKN	Dissolved Metals (F/P)	Total Metals (P)	Dissolved Hg (F/P)	Total Hg (P)	Nutrients (including total phosphorus) (P)	Petroleum hydrocarbons (MTBE) (P)	Petroleum hydrocarbons (BTEX,F1) (P)	Hydrocarbons (LEPH/HEPH) (P)	PAH, F2-F4 (P)	Dissolved Phosphorus	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	Ref - 1	09 AUG 2024	09:17	Seawater	11	X	X	X	X	X	X	X	X	X	X	X	X	X			
	KLK - Ref - 1	↓	09:30	Seawater	11	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			
	TGT - Ref - 1	↓	~~12:19~~ 12:30	Seawater	11	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			
	DUP - F	↓	—	Seawater	11	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			
				Seawater																	
				Seawater																	
				Seawater																	
				Seawater																	
				Seawater																	
				Seawater																	
				Seawater																	

Environmental Division
Yellowknife
Work Order Reference
YL2401157

Telephone : +1 867 873 5593

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? ☐ YES ☑ NO	Refer to quote (GOLD100-~~028~~ 011) for all analyses.
Are samples for human consumption/ use? ☐ YES ☑ NO	

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
6.8							

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Tatiana Tomliens	10-Aug-2024	13:00		Aug-12-2024	11:24			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401152**	Page	: 1 of 7
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: +1 867 873 5593
Project	: CA0026317.6821/86000/03	Date Samples Received	: 12-Aug-2024 11:24
PO	: ----	Date Analysis Commenced	: 15-Aug-2024
C-O-C number	: ----	Issue Date	: 20-Aug-2024 09:45
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 3		
No. of samples analysed	: 3		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Colby Bingham	Laboratory Supervisor	Inorganics, Saskatoon, Saskatchewan
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
George Huang	Supervisor - Inorganic	Metals, Calgary, Alberta
Hedy Lai	Team Leader - Inorganics	Sask Soils, Saskatoon, Saskatchewan
Maqsood UlHassan	Laboratory Analyst	Organics, Calgary, Alberta
Marsha Calero	Laboratory Assistant	Organics, Calgary, Alberta
Mervat Lamose	Lab Assistant	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Metals, Calgary, Alberta
Xihua Yao	Laboratory Analyst	Inorganics, Saskatoon, Saskatchewan
Xihua Yao	Laboratory Analyst	Sask Soils, Saskatoon, Saskatchewan

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
%	percent
mg/kg	milligrams per kilogram
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

Sub-Matrix: Soil/Solid
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TGT-Ref-1-SG	KLK-Ref-1-SG	DUPA-SG	----	----
					Client sampling date / time	09-Aug-2024 12:00	09-Aug-2024 10:00	09-Aug-2024 00:00	----	----
						YL2401152-001	YL2401152-002	YL2401152-003	--------	--------
						Result	Result	Result	----	----
Physical Tests										
Moisture	----	E144/CG	0.25	%		27.7	28.0	21.8	----	----
pH (1:2 soil:water)	----	E108/CG	0.10	pH units		8.57	8.62	8.51	----	----
Particle Size										
Gravel (>2mm)	----	EC184E/SK	1.0	%		<1.0	10.6	7.0	----	----
Sand (2.0mm - 0.063mm)	----	EC184E/SK	1.0	%		91.3	75.3	78.0	----	----
Silt (0.063mm - 0.004mm)	----	EC184E/SK	1.0	%		6.8	9.9	10.2	----	----
Clay (<0.004mm)	----	EC184E/SK	1.0	%		1.9	4.2	4.8	----	----
Percent Passing										
Passing (0.002mm)	----	E184/SK	1.0	%		1.6	3.3	3.8	----	----
Passing (0.004mm)	----	E184/SK	1.0	%		1.9	4.2	4.8	----	----
Passing (0.005mm)	----	E184/SK	1.0	%		2.0	4.6	5.2	----	----
Passing (0.020mm)	----	E184/SK	1.0	%		3.9	8.9	9.8	----	----
Passing (0.0312mm)	----	E184/SK	1.0	%		5.0	10.4	11.2	----	----
Passing (0.05mm)	----	E182/SK	1.0	%		7.0	12.8	13.6	----	----
Passing (0.063mm)	----	E182/SK	1.0	%		8.7	14.1	15.0	----	----
Passing (0.075mm)	----	E182/SK	1.0	%		10.2	15.3	16.4	----	----
Passing (0.125mm)	----	E182/SK	1.0	%		16.7	20.3	21.8	----	----
Passing (0.149mm)	----	E182/SK	1.0	%		20.7	26.1	28.2	----	----
Passing (0.250mm)	----	E182/SK	1.0	%		37.7	50.4	54.9	----	----
Passing (0.420mm)	----	E182/SK	1.0	%		77.2	67.7	73.1	----	----
Passing (0.50mm)	----	E182/SK	1.0	%		95.8	75.8	81.7	----	----
Passing (0.841mm)	----	E182/SK	1.0	%		98.2	81.0	85.6	----	----
Passing (1.0mm)	----	E182/SK	1.0	%		99.4	83.4	87.4	----	----
Passing (19mm)	----	E181/SK	1.0	%		100	94.8	100	----	----
Passing (2.0mm)	----	E181/SK	1.0	%		100	89.4	93.0	----	----
Passing (25.4mm)	----	E181/SK	1.0	%		100	96.7	100	----	----
Passing (38.1mm)	----	E181/SK	1.0	%		100	100	100	----	----
Passing (4.75mm)	----	E181/SK	1.0	%		100	90.6	94.0	----	----
Passing (50.8mm)	----	E181/SK	1.0	%		100	100	100	----	----

Analytical Results

Sub-Matrix: Soil/Solid
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TGT-Ref-1-SG	KLK-Ref-1-SG	DUPA-SG	----	----
					Client sampling date / time	09-Aug-2024 12:00	09-Aug-2024 10:00	09-Aug-2024 00:00	----	----
						YL2401152-001	YL2401152-002	YL2401152-003	--------	--------
						Result	Result	Result	----	----
Percent Passing										
Passing (76.2mm)	----	E181/SK	1.0	%		100	100	100	----	----
Passing (9.5mm)	----	E181/SK	1.0	%		100	92.6	96.2	----	----
Organic / Inorganic Carbon										
Carbon, total [TC]	----	E351/SK	0.050	%		0.355	3.32	3.28	----	----
Carbon, inorganic [IC]	----	E354/SK	0.050	%		0.107	2.33	2.29	----	----
Carbon, inorganic [IC], (as CaCO3 equivalent)	----	E354/SK	0.40	%		0.89	19.4	19.1	----	----
Carbon, total organic [TOC]	----	EC356/SK	0.050	%		0.248	0.990	0.990	----	----
Organic matter	----	EC356/SK	0.10	%		0.43	1.71	1.71	----	----
Metals										
Aluminum	7429-90-5	E440/CG	50	mg/kg		5390	6790	6710	----	----
Antimony	7440-36-0	E440/CG	0.10	mg/kg		<0.10	<0.10	<0.10	----	----
Arsenic	7440-38-2	E440/CG	0.10	mg/kg		1.60	3.80	3.44	----	----
Barium	7440-39-3	E440/CG	0.50	mg/kg		16.6	36.1	48.7	----	----
Beryllium	7440-41-7	E440/CG	0.10	mg/kg		0.40	0.34	0.34	----	----
Bismuth	7440-69-9	E440/CG	0.20	mg/kg		<0.20	<0.20	<0.20	----	----
Boron	7440-42-8	E440/CG	5.0	mg/kg		7.6	26.0	27.4	----	----
Cadmium	7440-43-9	E440/CG	0.020	mg/kg		<0.020	0.054	0.067	----	----
Calcium	7440-70-2	E440/CG	50	mg/kg		3500	60300	62400	----	----
Chromium	7440-47-3	E440/CG	0.50	mg/kg		12.2	16.5	16.6	----	----
Cobalt	7440-48-4	E440/CG	0.10	mg/kg		3.29	3.53	3.25	----	----
Copper	7440-50-8	E440/CG	0.50	mg/kg		5.04	4.69	5.42	----	----
Iron	7439-89-6	E440/CG	50	mg/kg		10700	11900	11800	----	----
Lead	7439-92-1	E440/CG	0.50	mg/kg		3.49	5.56	5.80	----	----
Lithium	7439-93-2	E440/CG	2.0	mg/kg		11.4	16.8	16.2	----	----
Magnesium	7439-95-4	E440/CG	20	mg/kg		6530	16400	16600	----	----
Manganese	7439-96-5	E440/CG	1.0	mg/kg		84.3	104	97.7	----	----
Mercury	7439-97-6	E510/CG	0.0050	mg/kg		<0.0050	0.0099	0.0113	----	----
Molybdenum	7439-98-7	E440/CG	0.10	mg/kg		0.21	0.23	0.22	----	----
Nickel	7440-02-0	E440/CG	0.50	mg/kg		7.51	11.3	10.9	----	----
Phosphorus	7723-14-0	E440/CG	50	mg/kg		407	354	342	----	----

Analytical Results

Sub-Matrix: **Soil/Solid**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TGT-Ref-1-SG	KLK-Ref-1-SG	DUPA-SG	----	----
					Client sampling date / time	09-Aug-2024 12:00	09-Aug-2024 10:00	09-Aug-2024 00:00	----	----
						YL2401152-001	YL2401152-002	YL2401152-003	--------	--------
						Result	Result	Result	----	----
Metals										
Potassium	7440-09-7	E440/CG	100	mg/kg		1200	1740	1800	----	----
Selenium	7782-49-2	E440/CG	0.20	mg/kg		<0.20	<0.20	0.20	----	----
Silver	7440-22-4	E440/CG	0.10	mg/kg		<0.10	<0.10	<0.10	----	----
Sodium	7440-23-5	E440/CG	50	mg/kg		2810	3500	3210	----	----
Strontium	7440-24-6	E440/CG	0.50	mg/kg		8.26	58.8	56.0	----	----
Sulfur	7704-34-9	E440/CG	1000	mg/kg		<1000	<1000	<1000	----	----
Thallium	7440-28-0	E440/CG	0.050	mg/kg		0.062	0.097	0.092	----	----
Tin	7440-31-5	E440/CG	2.0	mg/kg		<2.0	<2.0	<2.0	----	----
Titanium	7440-32-6	E440/CG	1.0	mg/kg		206	90.8	107	----	----
Tungsten	7440-33-7	E440/CG	0.50	mg/kg		<0.50	<0.50	<0.50	----	----
Uranium	7440-61-1	E440/CG	0.050	mg/kg		1.48	0.612	0.513	----	----
Vanadium	7440-62-2	E440/CG	0.20	mg/kg		14.1	15.2	16.2	----	----
Zinc	7440-66-6	E440/CG	2.0	mg/kg		17.7	19.6	19.3	----	----
Zirconium	7440-67-7	E440/CG	1.0	mg/kg		4.5	2.5	2.8	----	----
Hydrocarbons										
Chromatogram to baseline at nC50	n/a	E601.SG/CG	-	-		YES	YES	YES	----	----
EPH (C10-C19)	----	E601A/CG	200	mg/kg		<200	<200	<200	----	----
EPH (C19-C32)	----	E601A/CG	200	mg/kg		<200	<200	<200	----	----
F2 (C10-C16)	----	E601.SG/CG	25	mg/kg		<25	<25	<25	----	----
F3 (C16-C34)	----	E601.SG/CG	50	mg/kg		<50	<50	<50	----	----
F4 (C34-C50)	----	E601.SG/CG	50	mg/kg		<50	<50	<50	----	----
TEH (C10-C50)	n/a	E601.SG/CG	75	mg/kg		<75	<75	<75	----	----
TEH (C16-C50)	----	E601.SG/CG	75	mg/kg		<75	<75	<75	----	----
HEPHs	----	EC600A/CG	200	mg/kg		<200	<200	<200	----	----
LEPHs	----	EC600A/CG	200	mg/kg		<200	<200	<200	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/CG	1.0	%		91.2	91.3	91.0	----	----
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG/CG	1.0	%		94.4	95.2	100	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A-L/CG	0.0050	mg/kg		<0.0050	<0.0050	<0.0050	----	----

Analytical Results

Sub-Matrix: **Soil/Solid**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	TGT-Ref-1-SG	KLK-Ref-1-SG	DUPA-SG	----	----
					Client sampling date / time	09-Aug-2024 12:00	09-Aug-2024 10:00	09-Aug-2024 00:00	----	----
						YL2401152-001	YL2401152-002	YL2401152-003	--------	--------
						Result	Result	Result	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthylene	208-96-8	E641A-L/CG	0.0050	mg/kg		<0.0050	<0.0050	<0.0050	----	----
Acridine	260-94-6	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Anthracene	120-12-7	E641A-L/CG	0.0040	mg/kg		<0.0040	<0.0040	<0.0040	----	----
Benz(a)anthracene	56-55-3	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Benzo(a)pyrene	50-32-8	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Benzo(b+j)fluoranthene	n/a	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A-L/CG	0.015	mg/kg		<0.015	<0.015	<0.015	----	----
Benzo(g,h,i)perylene	191-24-2	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Benzo(k)fluoranthene	207-08-9	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Chrysene	218-01-9	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Dibenz(a,h)anthracene	53-70-3	E641A-L/CG	0.0050	mg/kg		<0.0050	<0.0050	<0.0050	----	----
Fluoranthene	206-44-0	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Fluorene	86-73-7	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Methylnaphthalene, 1-	90-12-0	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Methylnaphthalene, 2-	91-57-6	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Naphthalene	91-20-3	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Phenanthrene	85-01-8	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Pyrene	129-00-0	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
Quinoline	91-22-5	E641A-L/CG	0.010	mg/kg		<0.010	<0.010	<0.010	----	----
B(a)P total potency equivalents [B(a)P TPE]	----	E641A-L/CG	0.020	mg/kg		<0.020	<0.020	<0.020	----	----
IACR (CCME)	----	E641A-L/CG	0.150	-		<0.150	<0.150	<0.150	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Acridine-d9	34749-75-2	E641A-L/CG	0.1	%		94.3	94.1	93.3	----	----
Chrysene-d12	1719-03-5	E641A-L/CG	0.1	%		89.4	94.4	87.1	----	----
Naphthalene-d8	1146-65-2	E641A-L/CG	0.1	%		87.1	92.2	84.8	----	----
Phenanthrene-d10	1517-22-2	E641A-L/CG	0.1	%		99.0	98.6	95.6	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401152**	Page	: 1 of 13
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: +1 867 873 5593
Project	: CA0026317.6821/86000/03	Date Samples Received	: 12-Aug-2024 11:24
PO	: ----	Issue Date	: 20-Aug-2024 09:45
C-O-C number	: ----		
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 3		
No. of samples analysed	: 3		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- Reference Material (RM) Sample outliers occur - please see the following pages for full details.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Matrix: **Soil/Solid**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Reference Material (RM) Sample								
Metals	QC-MRG2-1602984 003	----	Uranium	7440-61-1	E440	69.5 % MES	70.0-130%	Recovery less than lower control limit

Result Qualifiers

Qualifier	*Description*
MES	*Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).*

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : BC PHCs - EPH by GC-FID										
Glass soil jar/Teflon lined cap										
DUPA-SG	E601A	09-Aug-2024	15-Aug-2024	14 days	6 days	✓	16-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Glass soil jar/Teflon lined cap										
KLK-Ref-1-SG	E601A	09-Aug-2024	15-Aug-2024	14 days	6 days	✓	16-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Glass soil jar/Teflon lined cap										
TGT-Ref-1-SG	E601A	09-Aug-2024	15-Aug-2024	14 days	6 days	✓	16-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
DUPA-SG	E601.SG	09-Aug-2024	15-Aug-2024	14 days	6 days	✓	16-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
KLK-Ref-1-SG	E601.SG	09-Aug-2024	15-Aug-2024	14 days	6 days	✓	16-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
TGT-Ref-1-SG	E601.SG	09-Aug-2024	15-Aug-2024	14 days	6 days	✓	16-Aug-2024	40 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
DUPA-SG	E510	09-Aug-2024	18-Aug-2024	28 days	9 days	✓	19-Aug-2024	28 days	10 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
KLK-Ref-1-SG	E510	09-Aug-2024	18-Aug-2024	28 days	9 days	✓	19-Aug-2024	28 days	10 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
TGT-Ref-1-SG	E510	09-Aug-2024	18-Aug-2024	28 days	9 days	✓	19-Aug-2024	28 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
DUPA-SG	E440	09-Aug-2024	18-Aug-2024	180 days	9 days	✓	19-Aug-2024	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
KLK-Ref-1-SG	E440	09-Aug-2024	18-Aug-2024	180 days	9 days	✓	19-Aug-2024	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
TGT-Ref-1-SG	E440	09-Aug-2024	18-Aug-2024	180 days	9 days	✓	19-Aug-2024	180 days	10 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
LDPE bag										
DUPA-SG	E351	09-Aug-2024	16-Aug-2024	----	----		16-Aug-2024	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
LDPE bag										
KLK-Ref-1-SG	E351	09-Aug-2024	16-Aug-2024	----	----		16-Aug-2024	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
LDPE bag										
TGT-Ref-1-SG	E351	09-Aug-2024	16-Aug-2024	----	----		16-Aug-2024	0 days	0 days	✓
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
LDPE bag										
DUPA-SG	E354	09-Aug-2024	----	----	----		16-Aug-2024	----	7 days	

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
LDPE bag KLK-Ref-1-SG	E354	09-Aug-2024	----	----	----		16-Aug-2024	----	7 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
LDPE bag TGT-Ref-1-SG	E354	09-Aug-2024	----	----	----		16-Aug-2024	----	7 days	
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag DUPA-SG	E184	09-Aug-2024	19-Aug-2024	365 days	10 days	✓	19-Aug-2024	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag KLK-Ref-1-SG	E184	09-Aug-2024	19-Aug-2024	365 days	10 days	✓	19-Aug-2024	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Pipette Method										
LDPE bag TGT-Ref-1-SG	E184	09-Aug-2024	19-Aug-2024	365 days	10 days	✓	19-Aug-2024	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag DUPA-SG	E182	09-Aug-2024	19-Aug-2024	365 days	10 days	✓	19-Aug-2024	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag KLK-Ref-1-SG	E182	09-Aug-2024	19-Aug-2024	365 days	10 days	✓	19-Aug-2024	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve <2mm										
LDPE bag TGT-Ref-1-SG	E182	09-Aug-2024	19-Aug-2024	365 days	10 days	✓	19-Aug-2024	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag DUPA-SG	E181	09-Aug-2024	19-Aug-2024	365 days	10 days	✓	19-Aug-2024	365 days	10 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag KLK-Ref-1-SG	E181	09-Aug-2024	19-Aug-2024	365 days	10 days	✓	19-Aug-2024	365 days	10 days	✓
Percent Passing : Particle Size Analysis - Sieve >2mm										
LDPE bag TGT-Ref-1-SG	E181	09-Aug-2024	19-Aug-2024	365 days	10 days	✓	19-Aug-2024	365 days	10 days	✓
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap DUPA-SG	E144	09-Aug-2024	----	----	----		15-Aug-2024	----	6 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap KLK-Ref-1-SG	E144	09-Aug-2024	----	----	----		15-Aug-2024	----	6 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TGT-Ref-1-SG	E144	09-Aug-2024	----	----	----		15-Aug-2024	----	6 days	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap DUPA-SG	E108	09-Aug-2024	19-Aug-2024	30 days	10 days	✓	19-Aug-2024	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap KLK-Ref-1-SG	E108	09-Aug-2024	19-Aug-2024	30 days	10 days	✓	19-Aug-2024	30 days	10 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TGT-Ref-1-SG	E108	09-Aug-2024	19-Aug-2024	30 days	10 days	✓	19-Aug-2024	30 days	10 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)										
Glass soil jar/Teflon lined cap DUPA-SG	E641A-L	09-Aug-2024	15-Aug-2024	14 days	6 days	✓	16-Aug-2024	40 days	1 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)										
Glass soil jar/Teflon lined cap										
KLK-Ref-1-SG	E641A-L	09-Aug-2024	15-Aug-2024	14 days	6 days	✓	16-Aug-2024	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)										
Glass soil jar/Teflon lined cap										
TGT-Ref-1-SG	E641A-L	09-Aug-2024	15-Aug-2024	14 days	6 days	✓	16-Aug-2024	40 days	1 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Soil/Solid**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
BC PHCs - EPH by GC-FID	E601A	1597849	1	14	7.1	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	1597847	1	6	16.6	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	1602984	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	1602985	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	1597851	1	20	5.0	5.0	✓
PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)	E641A-L	1597848	1	14	7.1	5.0	✓
Particle Size Analysis - Pipette Method	E184	1599810	1	17	5.8	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	1599812	1	17	5.8	5.0	✓
pH by Meter (1:2 Soil:Water Extraction)	E108	1604483	1	17	5.8	5.0	✓
Total Carbon by Combustion	E351	1600140	1	20	5.0	5.0	✓
Total Inorganic Carbon by Acetic Acid pH Standard Curve	E354	1599758	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
BC PHCs - EPH by GC-FID	E601A	1597849	1	14	7.1	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	1597847	1	6	16.6	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	1602984	2	20	10.0	10.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	1602985	2	20	10.0	10.0	✓
Moisture Content by Gravimetry	E144	1597851	1	20	5.0	5.0	✓
PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)	E641A-L	1597848	1	14	7.1	5.0	✓
Particle Size Analysis - Pipette Method	E184	1599810	1	17	5.8	5.0	✓
Particle Size Analysis - Sieve <2mm	E182	1599812	1	17	5.8	5.0	✓
Particle Size Analysis - Sieve >2mm	E181	1599811	1	17	5.8	5.0	✓
pH by Meter (1:2 Soil:Water Extraction)	E108	1604483	2	17	11.7	10.0	✓
Total Carbon by Combustion	E351	1600140	2	20	10.0	10.0	✓
Total Inorganic Carbon by Acetic Acid pH Standard Curve	E354	1599758	2	20	10.0	10.0	✓
Method Blanks (MB)							
BC PHCs - EPH by GC-FID	E601A	1597849	1	14	7.1	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	1597847	1	6	16.6	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	1602984	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	1602985	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	1597851	1	20	5.0	5.0	✓
PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)	E641A-L	1597848	1	14	7.1	5.0	✓
Total Carbon by Combustion	E351	1600140	1	20	5.0	5.0	✓
Total Inorganic Carbon by Acetic Acid pH Standard Curve	E354	1599758	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
BC PHCs - EPH by GC-FID	E601A	1597849	1	14	7.1	5.0	✓

Matrix: **Soil/Solid**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Matrix Spikes (MS) - Continued							
CCME PHCs - F2-F4 by GC-FID	E601.SG	1597847	1	6	16.6	5.0	✓
PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)	E641A-L	1597848	1	14	7.1	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter (1:2 Soil:Water Extraction)	E108 ALS Environmental - Calgary	Soil/Solid	BC Lab Manual	pH is determined by potentiometric measurement with a pH electrode at ambient laboratory temperature (normally 20 ± 5°C), and is carried out in accordance with procedures described in the BC Lab Manual (prescriptive method). The procedure involves mixing the dried (at <60 ºC) and sieved (10mesh/2mm) sample with ultra pure water at a 1:2 ratio of sediment to water. The pH is then measured by a standard pH probe.
Moisture Content by Gravimetry	E144 ALS Environmental - Calgary	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Particle Size Analysis - Sieve >2mm	E181 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material retained on the sieve is then further sieved through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Sieve <2mm	E182 ALS Environmental - Saskatoon	Soil/Solid	ASTM D6913-17 (mod)	Soil samples are disaggregated and sieved through a 2mm sieve. Material passed through the sieve is then further disaggregated using calgon solution and passed through a series of sieves. The amount passing through the sieves is measured gravimetrically.
Particle Size Analysis - Pipette Method	E184 ALS Environmental - Saskatoon	Soil/Solid	SSIR-51 Method 3.2.1	Soil material is separated from coarse material (>2mm). A specimen is then disaggregated through mixing with Calgon solution. The material is then suspended in solution wherein regular aliquots are taken using a mechanical pipette at specific time intervals. The aliquots are dried and material in suspension determined gravimetrically. The principles of Stokes' Law are applied to determine the amount of material remaining in solution as well as the maximum particle size remaining in solution at the specified time.
Total Carbon by Combustion	E351 ALS Environmental - Saskatoon	Soil/Solid	CSSS (2008) 21.2 (mod)	Total Carbon is determined by the high temperature combustion method with measurement by an infrared detector.
Total Inorganic Carbon by Acetic Acid pH Standard Curve	E354 ALS Environmental - Saskatoon	Soil/Solid	CSSS (2008) 20.2	Total Inorganic Carbon is determined by acetic acid pH standard curve, where a known quantity of acetic acid is consumed by reaction with carbonates in the soil. The pH of the resulting solution is measured and compared against a standard curve relating pH to weight of carbonate.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Metals in Soil/Solid by CRC ICPMS	E440 ALS Environmental - Calgary	Soil/Solid	EPA 6020B (mod)	This method is intended to liberate metals that may be environmentally available. Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Silicate minerals are not solubilized. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. This method does not adequately recover elemental sulfur, and is unsuitable for assessment of elemental sulfur standards or guidelines. Analysis is by Collision/Reaction Cell ICPMS.
Mercury in Soil/Solid by CVAAS	E510 ALS Environmental - Calgary	Soil/Solid	EPA 200.2/1631 Appendix (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl, followed by CVAAS analysis.
CCME PHCs - F2-F4 by GC-FID	E601.SG ALS Environmental - Calgary	Soil/Solid	CCME PHC in Soil - Tier 1	Sample extracts are subjected to in-situ silica gel treatment prior to analysis by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Test results are expressed on a dry weight basis. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Calgary	Soil/Solid	BC MOE Lab Manual (EPH in Solids by GC/FID) (mod)	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
PAHs in Soil/solid by Hex:Ace GC-MS (Low Level CCME)	E641A-L ALS Environmental - Calgary	Soil/Solid	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are extracted with hexane/acetone and analyzed by GC-MS. If reported, IACR (index of additive cancer risk, unitless) and B(a)P toxic potency equivalent (in soil concentration units) are calculated as per CCME PAH Soil Quality Guidelines fact sheet (2010) or ABT1.
Particle Size Analysis (Pipette) - MMER Classification	EC184E ALS Environmental - Saskatoon	Soil/Solid	Metal Mining Technical Guidance for Environmental Effects Monitoring (2012)	The particle size determination is performed by various methods to generate a Grain Size curve. The data from the curve is then used to produce particle size ranges based on the Metal Mining Effluent Regulations (MMER) classification system for Environmental Effects Monitoring.
Total Organic Carbon (Calculated) in soil	EC356 ALS Environmental - Saskatoon	Soil/Solid	CSSS (2008) 21.2	Total Organic Carbon (TOC) is calculated by the difference between total carbon (TC) and total inorganic carbon (TIC).
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Calgary	Soil/Solid	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(b+j)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Pyrene.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil:Water for pH/EC	EP108 ALS Environmental - Calgary	Soil/Solid	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL	The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water.
Digestion for Metals and Mercury	EP440 ALS Environmental - Calgary	Soil/Solid	EPA 200.2 (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO_3 and HCl. This method is intended to liberate metals that may be environmentally available.
PHCs and PAHs Hexane-Acetone Tumbler Extraction	EP601 ALS Environmental - Calgary	Soil/Solid	CCME PHC in Soil - Tier 1 (mod)	Samples are subsampled and Petroleum Hydrocarbons (PHC) and PAHs are extracted with 1:1 hexane:acetone using a rotary extractor.
Dry and Grind in Soil/Solid <60°C	EPP442 ALS Environmental - Calgary	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	After removal of any coarse fragments and reservation of wet subsamples a portion of homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is then particle size reduced with an automated crusher or mortar and pestle, typically to <2 mm. Further size reduction may be needed for particular tests.

QUALITY CONTROL REPORT

Work Order	: **YL2401152**	Page	: 1 of 15
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: +1 867 873 5593
Project	: CA0026317.6821/86000/03	Date Samples Received	: 12-Aug-2024 11:24
PO	: ----	Date Analysis Commenced	: 15-Aug-2024
C-O-C number	: ----	Issue Date	: 20-Aug-2024 09:45
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 3		
No. of samples analysed	: 3		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Reference Material (RM) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Colby Bingham	Laboratory Supervisor	Saskatoon Inorganics, Saskatoon, Saskatchewan
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
George Huang	Supervisor - Inorganic	Calgary Metals, Calgary, Alberta
Hedy Lai	Team Leader - Inorganics	Saskatoon Sask Soils, Saskatoon, Saskatchewan
Maqsood UlHassan	Laboratory Analyst	Calgary Organics, Calgary, Alberta
Marsha Calero	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Mervat Lamose	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Metals, Calgary, Alberta
Xihua Yao	Laboratory Analyst	Saskatoon Inorganics, Saskatoon, Saskatchewan
Xihua Yao	Laboratory Analyst	Saskatoon Sask Soils, Saskatoon, Saskatchewan

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1597851)											
EO2406771-096	Anonymous	Moisture	----	E144	0.25	%	16.8	16.1	4.13%	20%	----
Physical Tests (QC Lot: 1604483)											
EO2406972-001	Anonymous	pH (1:2 soil:water)	----	E108	0.10	pH units	7.66	7.68	0.261%	5%	----
Percent Passing (QC Lot: 1599810)											
VA24C0228-041	Anonymous	Passing (0.002mm)	----	E184	1.0	%	9.2	9.7	0.4	Diff <2x LOR	----
		Passing (0.004mm)	----	E184	1.0	%	11.6	12.0	0.4	Diff <2x LOR	----
		Passing (0.005mm)	----	E184	1.0	%	12.7	13.1	0.4	Diff <2x LOR	----
		Passing (0.020mm)	----	E184	1.0	%	26.0	26.1	0.0877%	15%	----
		Passing (0.0312mm)	----	E184	1.0	%	32.6	32.1	1.42%	15%	----
Percent Passing (QC Lot: 1599812)											
VA24C0228-041	Anonymous	Passing (0.05mm)	----	E182	1.0	%	43.5	42.2	2.95%	15%	----
		Passing (0.063mm)	----	E182	1.0	%	45.3	44.2	2.50%	15%	----
		Passing (0.075mm)	----	E182	1.0	%	47.0	46.0	2.12%	15%	----
		Passing (0.125mm)	----	E182	1.0	%	53.8	53.4	0.775%	15%	----
		Passing (0.149mm)	----	E182	1.0	%	55.3	55.0	0.618%	15%	----
		Passing (0.250mm)	----	E182	1.0	%	61.4	61.4	0.0409%	15%	----
		Passing (0.420mm)	----	E182	1.0	%	65.5	65.7	0.320%	15%	----
		Passing (0.50mm)	----	E182	1.0	%	67.5	67.8	0.474%	15%	----
		Passing (0.841mm)	----	E182	1.0	%	70.5	71.0	0.745%	15%	----
		Passing (1.0mm)	----	E182	1.0	%	71.9	72.5	0.863%	15%	----
Organic / Inorganic Carbon (QC Lot: 1599758)											
EO2406802-001	Anonymous	Carbon, inorganic [IC]	----	E354	0.050	%	0.082	0.076	0.006	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1600140)											
VA24C0228-039	Anonymous	Carbon, total [TC]	----	E351	0.050	%	0.735	0.770	4.58%	20%	----
Metals (QC Lot: 1602984)											
FJ2402354-001	Anonymous	Mercury	7439-97-6	E510	0.0500	mg/kg	0.0968	0.107	0.0104	Diff <2x LOR	----
Metals (QC Lot: 1602985)											
FJ2402354-001	Anonymous	Aluminum	7429-90-5	E440	50	mg/kg	13800	12600	8.60%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	0.82	0.95	14.9%	30%	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	10.6	10.2	3.67%	30%	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Metals (QC Lot: 1602985) - continued											
FJ2402354-001	Anonymous	Barium	7440-39-3	E440	0.50	mg/kg	577	564	2.34%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.79	0.78	0.700%	30%	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	0.21	0.20	0.006	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	6.1	6.0	0.1	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	1.20	1.15	4.54%	30%	----
		Calcium	7440-70-2	E440	50	mg/kg	30600	31100	1.63%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	30.7	27.0	13.0%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	12.4	12.1	1.86%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	27.5	26.6	3.24%	30%	----
		Iron	7439-89-6	E440	50	mg/kg	29500	28500	3.40%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	13.5	13.2	2.22%	40%	----
		Lithium	7439-93-2	E440	2.0	mg/kg	20.2	19.2	5.09%	30%	----
		Magnesium	7439-95-4	E440	20	mg/kg	7230	6800	6.12%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	436	434	0.301%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	1.95	1.97	0.980%	40%	----
		Nickel	7440-02-0	E440	0.50	mg/kg	41.1	39.1	5.02%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	1060	973	9.01%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	1940	1840	5.11%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	0.62	0.58	0.03	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	0.24	0.25	0.0004	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	273	254	7.32%	40%	----
		Strontium	7440-24-6	E440	0.50	mg/kg	82.4	81.1	1.61%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	0.254	0.251	0.003	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	9.9	11.5	14.6%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	1.22	1.20	1.93%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	48.4	45.5	6.06%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	131	126	3.80%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	3.4	3.5	0.1	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1597847)											
EO2406771-096	Anonymous	F2 (C10-C16)	----	E601.SG	25	mg/kg	<25	<25	0	Diff <2x LOR	----
		F3 (C16-C34)	----	E601.SG	50	mg/kg	<50	<50	0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Hydrocarbons (QC Lot: 1597847) - continued											
EO2406771-096	Anonymous	F4 (C34-C50)	----	E601.SG	50	mg/kg	<50	<50	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1597849)											
FJ2402353-001	Anonymous	EPH (C10-C19)	----	E601A	200	mg/kg	<200	<200	0	Diff <2x LOR	----
		EPH (C19-C32)	----	E601A	200	mg/kg	<200	<200	0	Diff <2x LOR	----
Polycyclic Aromatic Hydrocarbons (QC Lot: 1597848)											
FJ2402353-001	Anonymous	Acenaphthene	83-32-9	E641A-L	0.0050	mg/kg	<0.0050	<0.0050	0	Diff <2x LOR	----
		Acenaphthylene	208-96-8	E641A-L	0.0050	mg/kg	<0.0050	<0.0050	0	Diff <2x LOR	----
		Acridine	260-94-6	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Anthracene	120-12-7	E641A-L	0.0040	mg/kg	<0.0040	<0.0040	0	Diff <2x LOR	----
		Benz(a)anthracene	56-55-3	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Benzo(a)pyrene	50-32-8	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Benzo(b+j)fluoranthene	n/a	E641A-L	0.010	mg/kg	0.014	<0.010	0.004	Diff <2x LOR	----
		Benzo(g,h,i)perylene	191-24-2	E641A-L	0.010	mg/kg	0.025	0.014	0.011	Diff <2x LOR	----
		Benzo(k)fluoranthene	207-08-9	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Chrysene	218-01-9	E641A-L	0.010	mg/kg	0.012	<0.010	0.002	Diff <2x LOR	----
		Dibenz(a,h)anthracene	53-70-3	E641A-L	0.0050	mg/kg	<0.0050	<0.0050	0	Diff <2x LOR	----
		Fluoranthene	206-44-0	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Fluorene	86-73-7	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Indeno(1,2,3-c,d)pyrene	193-39-5	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Methylnaphthalene, 1-	90-12-0	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Methylnaphthalene, 2-	91-57-6	E641A-L	0.010	mg/kg	0.011	<0.010	0.001	Diff <2x LOR	----
		Naphthalene	91-20-3	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Phenanthrene	85-01-8	E641A-L	0.010	mg/kg	0.012	<0.010	0.002	Diff <2x LOR	----
		Pyrene	129-00-0	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Quinoline	91-22-5	E641A-L	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1597851)						
Moisture	----	E144	0.25	%	<0.25	----
Organic / Inorganic Carbon (QCLot: 1599758)						
Carbon, inorganic [IC]	----	E354	0.05	%	<0.050	----
Organic / Inorganic Carbon (QCLot: 1600140)						
Carbon, total [TC]	----	E351	0.05	%	<0.050	----
Metals (QCLot: 1602984)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 1602985)						
Aluminum	7429-90-5	E440	50	mg/kg	<50	----
Antimony	7440-36-0	E440	0.1	mg/kg	<0.10	----
Arsenic	7440-38-2	E440	0.1	mg/kg	<0.10	----
Barium	7440-39-3	E440	0.5	mg/kg	<0.50	----
Beryllium	7440-41-7	E440	0.1	mg/kg	<0.10	----
Bismuth	7440-69-9	E440	0.2	mg/kg	<0.20	----
Boron	7440-42-8	E440	5	mg/kg	<5.0	----
Cadmium	7440-43-9	E440	0.02	mg/kg	<0.020	----
Calcium	7440-70-2	E440	50	mg/kg	<50	----
Chromium	7440-47-3	E440	0.5	mg/kg	<0.50	----
Cobalt	7440-48-4	E440	0.1	mg/kg	<0.10	----
Copper	7440-50-8	E440	0.5	mg/kg	<0.50	----
Iron	7439-89-6	E440	50	mg/kg	<50	----
Lead	7439-92-1	E440	0.5	mg/kg	<0.50	----
Lithium	7439-93-2	E440	2	mg/kg	<2.0	----
Magnesium	7439-95-4	E440	20	mg/kg	<20	----
Manganese	7439-96-5	E440	1	mg/kg	<1.0	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	<0.10	----
Nickel	7440-02-0	E440	0.5	mg/kg	<0.50	----
Phosphorus	7723-14-0	E440	50	mg/kg	<50	----
Potassium	7440-09-7	E440	100	mg/kg	<100	----
Selenium	7782-49-2	E440	0.2	mg/kg	<0.20	----
Silver	7440-22-4	E440	0.1	mg/kg	<0.10	----
Sodium	7440-23-5	E440	50	mg/kg	<50	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 1602985) - continued						
Strontium	7440-24-6	E440	0.5	mg/kg	<0.50	----
Sulfur	7704-34-9	E440	1000	mg/kg	<1000	----
Thallium	7440-28-0	E440	0.05	mg/kg	<0.050	----
Tin	7440-31-5	E440	2	mg/kg	<2.0	----
Titanium	7440-32-6	E440	1	mg/kg	<1.0	----
Tungsten	7440-33-7	E440	0.5	mg/kg	<0.50	----
Uranium	7440-61-1	E440	0.05	mg/kg	<0.050	----
Vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	----
Zinc	7440-66-6	E440	2	mg/kg	<2.0	----
Zirconium	7440-67-7	E440	1	mg/kg	<1.0	----
Hydrocarbons (QCLot: 1597847)						
F2 (C10-C16)	----	E601.SG	25	mg/kg	<25	----
F3 (C16-C34)	----	E601.SG	50	mg/kg	<50	----
F4 (C34-C50)	----	E601.SG	50	mg/kg	<50	----
Hydrocarbons (QCLot: 1597849)						
EPH (C10-C19)	----	E601A	200	mg/kg	<200	----
EPH (C19-C32)	----	E601A	200	mg/kg	<200	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1597848)						
Acenaphthene	83-32-9	E641A-L	0.005	mg/kg	<0.0050	----
Acenaphthylene	208-96-8	E641A-L	0.005	mg/kg	<0.0050	----
Acridine	260-94-6	E641A-L	0.01	mg/kg	<0.010	----
Anthracene	120-12-7	E641A-L	0.004	mg/kg	<0.0040	----
Benz(a)anthracene	56-55-3	E641A-L	0.01	mg/kg	<0.010	----
Benzo(a)pyrene	50-32-8	E641A-L	0.01	mg/kg	<0.010	----
Benzo(b+j)fluoranthene	n/a	E641A-L	0.01	mg/kg	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A-L	0.01	mg/kg	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A-L	0.01	mg/kg	<0.010	----
Chrysene	218-01-9	E641A-L	0.01	mg/kg	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A-L	0.005	mg/kg	<0.0050	----
Fluoranthene	206-44-0	E641A-L	0.01	mg/kg	<0.010	----
Fluorene	86-73-7	E641A-L	0.01	mg/kg	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A-L	0.01	mg/kg	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A-L	0.01	mg/kg	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A-L	0.01	mg/kg	<0.010	----
Naphthalene	91-20-3	E641A-L	0.01	mg/kg	<0.010	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1597848) - continued						
Phenanthrene	85-01-8	E641A-L	0.01	mg/kg	<0.010	----
Pyrene	129-00-0	E641A-L	0.01	mg/kg	<0.010	----
Quinoline	91-22-5	E641A-L	0.01	mg/kg	<0.010	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1597851)									
Moisture	----	E144	0.25	%	50 %	92.7	90.0	110	----
Physical Tests (QCLot: 1604483)									
pH (1:2 soil:water)	----	E108	----	pH units	7 pH units	101	97.0	103	----
Organic / Inorganic Carbon (QCLot: 1599758)									
Carbon, inorganic [IC]	----	E354	0.05	%	0.5 %	94.0	90.0	110	----
Organic / Inorganic Carbon (QCLot: 1600140)									
Carbon, total [TC]	----	E351	0.05	%	48 %	104	90.0	110	----
Metals (QCLot: 1602984)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	114	80.0	120	----
Metals (QCLot: 1602985)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	111	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	113	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	113	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	106	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	101	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	105	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	104	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	106	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	100	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	110	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	108	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	105	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	108	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	107	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	101	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	112	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	107	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	110	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	107	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	113	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	114	80.0	120	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 1602985) - continued									
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	108	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	100	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	112	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	111	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	114	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	105	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	109	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	108	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	105	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	104	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	111	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	106	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	105	80.0	120	----
Hydrocarbons (QCLot: 1597847)									
F2 (C10-C16)	----	E601.SG	25	mg/kg	614 mg/kg	96.9	70.0	130	----
F3 (C16-C34)	----	E601.SG	50	mg/kg	1330 mg/kg	89.6	70.0	130	----
F4 (C34-C50)	----	E601.SG	50	mg/kg	736 mg/kg	85.6	70.0	130	----
Hydrocarbons (QCLot: 1597849)									
EPH (C10-C19)	----	E601A	200	mg/kg	988 mg/kg	90.2	70.0	130	----
EPH (C19-C32)	----	E601A	200	mg/kg	648 mg/kg	89.3	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1597848)									
Acenaphthene	83-32-9	E641A-L	0.005	mg/kg	0.455 mg/kg	97.8	60.0	130	----
Acenaphthylene	208-96-8	E641A-L	0.005	mg/kg	0.455 mg/kg	97.3	60.0	130	----
Acridine	260-94-6	E641A-L	0.01	mg/kg	0.455 mg/kg	75.4	60.0	130	----
Anthracene	120-12-7	E641A-L	0.004	mg/kg	0.455 mg/kg	79.8	60.0	130	----
Benz(a)anthracene	56-55-3	E641A-L	0.01	mg/kg	0.455 mg/kg	78.3	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A-L	0.01	mg/kg	0.455 mg/kg	75.3	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A-L	0.01	mg/kg	0.455 mg/kg	80.5	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A-L	0.01	mg/kg	0.455 mg/kg	79.6	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A-L	0.01	mg/kg	0.455 mg/kg	81.2	60.0	130	----
Chrysene	218-01-9	E641A-L	0.01	mg/kg	0.455 mg/kg	83.5	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A-L	0.005	mg/kg	0.455 mg/kg	77.3	60.0	130	----
Fluoranthene	206-44-0	E641A-L	0.01	mg/kg	0.455 mg/kg	81.8	60.0	130	----
Fluorene	86-73-7	E641A-L	0.01	mg/kg	0.455 mg/kg	79.8	60.0	130	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1597848) - continued									
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A-L	0.01	mg/kg	0.455 mg/kg	82.2	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A-L	0.01	mg/kg	0.455 mg/kg	92.2	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A-L	0.01	mg/kg	0.455 mg/kg	99.7	60.0	130	----
Naphthalene	91-20-3	E641A-L	0.01	mg/kg	0.455 mg/kg	95.0	50.0	130	----
Phenanthrene	85-01-8	E641A-L	0.01	mg/kg	0.455 mg/kg	80.6	60.0	130	----
Pyrene	129-00-0	E641A-L	0.01	mg/kg	0.455 mg/kg	78.6	60.0	130	----
Quinoline	91-22-5	E641A-L	0.01	mg/kg	0.455 mg/kg	85.8	60.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Hydrocarbons (QCLot: 1597847)										
EO2406771-096	Anonymous	F2 (C10-C16)	----	E601.SG	490 mg/kg	515 mg/kg	95.0	60.0	140	----
		F3 (C16-C34)	----	E601.SG	988 mg/kg	1120 mg/kg	88.5	60.0	140	----
		F4 (C34-C50)	----	E601.SG	504 mg/kg	617 mg/kg	81.6	60.0	140	----
Hydrocarbons (QCLot: 1597849)										
FJ2402353-001	Anonymous	EPH (C10-C19)	----	E601A	840 mg/kg	856 mg/kg	97.8	60.0	140	----
		EPH (C19-C32)	----	E601A	490 mg/kg	562 mg/kg	86.7	60.0	140	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1597848)										
FJ2402353-001	Anonymous	Acenaphthene	83-32-9	E641A-L	0.307 mg/kg	0.347 mg/kg	88.5	50.0	140	----
		Acenaphthylene	208-96-8	E641A-L	0.308 mg/kg	0.347 mg/kg	88.8	50.0	140	----
		Acridine	260-94-6	E641A-L	0.260 mg/kg	0.347 mg/kg	75.0	50.0	140	----
		Anthracene	120-12-7	E641A-L	0.286 mg/kg	0.347 mg/kg	82.5	50.0	140	----
		Benz(a)anthracene	56-55-3	E641A-L	0.290 mg/kg	0.347 mg/kg	83.6	50.0	140	----
		Benzo(a)pyrene	50-32-8	E641A-L	0.281 mg/kg	0.347 mg/kg	81.0	50.0	140	----
		Benzo(b+j)fluoranthene	n/a	E641A-L	0.291 mg/kg	0.347 mg/kg	83.8	50.0	140	----
		Benzo(g,h,i)perylene	191-24-2	E641A-L	0.274 mg/kg	0.347 mg/kg	78.9	50.0	140	----
		Benzo(k)fluoranthene	207-08-9	E641A-L	0.299 mg/kg	0.347 mg/kg	86.2	50.0	140	----
		Chrysene	218-01-9	E641A-L	0.303 mg/kg	0.347 mg/kg	87.2	50.0	140	----
		Dibenz(a,h)anthracene	53-70-3	E641A-L	0.265 mg/kg	0.347 mg/kg	76.5	50.0	140	----
		Fluoranthene	206-44-0	E641A-L	0.295 mg/kg	0.347 mg/kg	84.9	50.0	140	----
		Fluorene	86-73-7	E641A-L	0.281 mg/kg	0.347 mg/kg	80.8	50.0	140	----
		Indeno(1,2,3-c,d)pyrene	193-39-5	E641A-L	0.330 mg/kg	0.347 mg/kg	95.0	50.0	140	----
		Methylnaphthalene, 1-	90-12-0	E641A-L	0.288 mg/kg	0.347 mg/kg	83.0	50.0	140	----
		Methylnaphthalene, 2-	91-57-6	E641A-L	0.318 mg/kg	0.347 mg/kg	91.7	50.0	140	----
		Naphthalene	91-20-3	E641A-L	0.298 mg/kg	0.347 mg/kg	85.8	50.0	140	----
		Phenanthrene	85-01-8	E641A-L	0.283 mg/kg	0.347 mg/kg	81.5	50.0	140	----
		Pyrene	129-00-0	E641A-L	0.288 mg/kg	0.347 mg/kg	83.0	50.0	140	----
		Quinoline	91-22-5	E641A-L	0.272 mg/kg	0.347 mg/kg	78.2	50.0	140	----

Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Physical Tests (QCLot: 1604483)									
QC-1604483-002	RM	pH (1:2 soil:water)	----	E108	7.78 pH units	103	96.0	104	----
Percent Passing (QCLot: 1599810)									
QC-1599810-001	RM	Passing (0.002mm)	----	E184	22.5 %	107	74.1	126	----
QC-1599810-001	RM	Passing (0.004mm)	----	E184	25.1 %	106	76.8	123	----
QC-1599810-001	RM	Passing (0.005mm)	----	E184	26.5 %	105	77.9	122	----
QC-1599810-001	RM	Passing (0.020mm)	----	E184	41.8 %	99.6	85.8	114	----
QC-1599810-001	RM	Passing (0.0312mm)	----	E184	45.6 %	103	88.0	112	----
Percent Passing (QCLot: 1599811)									
QC-1599811-001	RM	Passing (19mm)	----	E181	100 %	100	90.0	110	----
QC-1599811-001	RM	Passing (2.0mm)	----	E181	100 %	100	90.0	110	----
QC-1599811-001	RM	Passing (25.4mm)	----	E181	100 %	100	90.0	110	----
QC-1599811-001	RM	Passing (38.1mm)	----	E181	100 %	100	90.0	110	----
QC-1599811-001	RM	Passing (4.75mm)	----	E181	100 %	100	90.0	110	----
QC-1599811-001	RM	Passing (50.8mm)	----	E181	100 %	100	90.0	110	----
QC-1599811-001	RM	Passing (76.2mm)	----	E181	100 %	100	90.0	110	----
QC-1599811-001	RM	Passing (9.5mm)	----	E181	100 %	100	90.0	110	----
Percent Passing (QCLot: 1599812)									
QC-1599812-001	RM	Passing (0.05mm)	----	E182	54.1 %	104	90.0	110	----
QC-1599812-001	RM	Passing (0.063mm)	----	E182	57.1 %	103	90.8	109	----
QC-1599812-001	RM	Passing (0.075mm)	----	E182	60.2 %	101	91.4	109	----
QC-1599812-001	RM	Passing (0.125mm)	----	E182	68.2 %	102	92.7	107	----
QC-1599812-001	RM	Passing (0.149mm)	----	E182	72 %	100	93.1	107	----
QC-1599812-001	RM	Passing (0.250mm)	----	E182	82.3 %	101	94.1	106	----
QC-1599812-001	RM	Passing (0.420mm)	----	E182	89.9 %	99.3	94.6	105	----
QC-1599812-001	RM	Passing (0.50mm)	----	E182	91.2 %	101	94.7	105	----
QC-1599812-001	RM	Passing (0.841mm)	----	E182	95.6 %	99.5	94.9	105	----
QC-1599812-001	RM	Passing (1.0mm)	----	E182	96.3 %	100	94.9	105	----
Organic / Inorganic Carbon (QCLot: 1599758)									
QC-1599758-003	RM	Carbon, inorganic [IC]	----	E354	0.383 %	98.4	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1600140)									
QC-1600140-003	RM	Carbon, total [TC]	----	E351	1.4 %	101	80.0	120	----
Metals (QCLot: 1602984)									

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Metals (QCLot: 1602984) - continued									
QC-1602984-003	RM	Mercury	7439-97-6	E510	0.068 mg/kg	112	70.0	130	----
Metals (QCLot: 1602985)									
QC-1602985-003	RM	Aluminum	7429-90-5	E440	22500 mg/kg	86.9	70.0	130	----
QC-1602985-003	RM	Antimony	7440-36-0	E440	24.8 mg/kg	94.4	70.0	130	----
QC-1602985-003	RM	Arsenic	7440-38-2	E440	21.2 mg/kg	89.1	70.0	130	----
QC-1602985-003	RM	Barium	7440-39-3	E440	788 mg/kg	87.9	70.0	130	----
QC-1602985-003	RM	Beryllium	7440-41-7	E440	1.82 mg/kg	94.5	70.0	130	----
QC-1602985-003	RM	Bismuth	7440-69-9	E440	1.78 mg/kg	79.0	70.0	130	----
QC-1602985-003	RM	Cadmium	7440-43-9	E440	2.15 mg/kg	90.0	70.0	130	----
QC-1602985-003	RM	Calcium	7440-70-2	E440	4900 mg/kg	86.4	70.0	130	----
QC-1602985-003	RM	Chromium	7440-47-3	E440	56.9 mg/kg	89.9	70.0	130	----
QC-1602985-003	RM	Cobalt	7440-48-4	E440	32 mg/kg	89.7	70.0	130	----
QC-1602985-003	RM	Copper	7440-50-8	E440	969 mg/kg	88.8	70.0	130	----
QC-1602985-003	RM	Iron	7439-89-6	E440	32700 mg/kg	92.0	70.0	130	----
QC-1602985-003	RM	Lead	7439-92-1	E440	919 mg/kg	87.3	70.0	130	----
QC-1602985-003	RM	Lithium	7439-93-2	E440	47.3 mg/kg	91.5	70.0	130	----
QC-1602985-003	RM	Magnesium	7439-95-4	E440	7780 mg/kg	92.1	70.0	130	----
QC-1602985-003	RM	Manganese	7439-96-5	E440	8640 mg/kg	87.3	70.0	130	----
QC-1602985-003	RM	Molybdenum	7439-98-7	E440	25.1 mg/kg	88.9	70.0	130	----
QC-1602985-003	RM	Nickel	7440-02-0	E440	1000 mg/kg	87.6	70.0	130	----
QC-1602985-003	RM	Phosphorus	7723-14-0	E440	660 mg/kg	84.7	70.0	130	----
QC-1602985-003	RM	Potassium	7440-09-7	E440	10800 mg/kg	92.0	70.0	130	----
QC-1602985-003	RM	Selenium	7782-49-2	E440	1.04 mg/kg	95.7	60.0	140	----
QC-1602985-003	RM	Silver	7440-22-4	E440	8.98 mg/kg	86.3	70.0	130	----
QC-1602985-003	RM	Sodium	7440-23-5	E440	1770 mg/kg	90.6	70.0	130	----
QC-1602985-003	RM	Strontium	7440-24-6	E440	41 mg/kg	86.7	70.0	130	----
QC-1602985-003	RM	Sulfur	7704-34-9	E440	3940 mg/kg	105	50.0	150	----
QC-1602985-003	RM	Thallium	7440-28-0	E440	0.907 mg/kg	91.2	70.0	130	----
QC-1602985-003	RM	Tin	7440-31-5	E440	3.79 mg/kg	90.1	40.0	160	----
QC-1602985-003	RM	Titanium	7440-32-6	E440	2790 mg/kg	93.6	70.0	130	----
QC-1602985-003	RM	Tungsten	7440-33-7	E440	6.99 mg/kg	90.4	70.0	130	----
QC-1602985-003	RM	Uranium	7440-61-1	E440	3.97 mg/kg	# 69.5	70.0	130	MES
QC-1602985-003	RM	Vanadium	7440-62-2	E440	66.2 mg/kg	89.6	70.0	130	----
QC-1602985-003	RM	Zinc	7440-66-6	E440	828 mg/kg	90.0	70.0	130	----
QC-1602985-003	RM	Zirconium	7440-67-7	E440	6.91 mg/kg	88.5	70.0	130	----

Qualifiers

Qualifier	Description
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).

Chain of Custody (COC) / Analytical Request Form

COC Number: 21 -

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Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	Elaine Irving/Adrienne Ducharme
Phone:	1-604-297-2030/1-604-296-2689
	Company address below will appear on the final report
Street:	840 Howe Street, 10th Floor
City/Province:	Vancouver, BC
Postal Code:	V6Z 2M1
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	
Contact:	

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ALS Account # / Quote #:	
Job #:	VA24-GOLD100-011
PO / AFE:	CA0026317.6821/86000/03
LSD:	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (ALS use only):

ALS Contact: Amber Springer Sampler:

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Particle Size (Wentworth - S184EA)	TOC, TIC, OC, org. matter (S351)	Metals + Hg + pH (CA09)	Moisture (E144)	EPH/LEPH/HEPH/PAHs (S666A)	PHC F2-F4 (E601.SG)	VOC/VPH/F1/BTEX, MTBE(S655C.A)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	TGT-Ref-1-SG	09 Aug 2024	12:00	Sediment	4	X	X	X	X	X	X	X			
	KLK-Ref-1-SG	↓	10:00	Sediment	4	↓	↓	↓	↓	↓	↓	↓			
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Environmental Division
Yellowknife
Work Order Reference
YL2401152

Telephone : +1 867 873 5593

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	Refer to quote GOLD100-011

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
4.2							

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
[signature]	10-Aug-2024	13:00	[signature]	12-AUG-2024	11:24			

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REPORT

Chapter 8.0 Non-Indigenous Species and Aquatic Invasive Species (NIS/AIS) Monitoring Program

2024 Milne Port Marine Environmental Effects Monitoring Program (MEEMP) and Non-Indigenous Species/Aquatic Invasive Species (NIS/AIS) Monitoring Program

Submitted to:

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Submitted by:

WSP Canada Inc.



CA0026317.6821-047-R-Rev0-86000

May 15, 2025

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DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

Acronym or Abbreviation	Definitions
AIS	Aquatic Invasive Species
ArcOD	Arctic Ocean Diversity
ARMS	Arctic Register of Marine Species
Biologica	Biological Environmental Services Ltd.
BOLD	Barcode of Life Database
CBDD	Convention of Biological Diversity Decision VI/23
CCDB	Canadian Centre for DNA Barcoding
CD	Chart Datum
c.f.	Compare with (taxonomy)
DFO	Fisheries and Oceans Canada
DNA	Deoxyribonucleic Acid
EEM	Environmental Effects Monitoring
EOL	Encyclopedia of Life
GBIF	Global Biodiversity Information Facility
GISD	Global Invasive Species Database
Indet.	Indeterminate (taxonomy)
ISSG	Invasive Species Specialist Group
IUCN	International Union for Conservation of Nature
Laval	Benthic Ecology Lab at Université Laval
MEEMP	Marine Environmental Effects Monitoring Program
MEWG	Marine Environment Working Group
NCCOS	National Centers for Coastal Ocean Science
NEMESIS	National Exotic Marine and Estuarine Species Information System
NextGen or NGS	Next Generation Sequencing
NIS	Non-Indigenous Species
OBIS	Ocean Biogeographic Information System
PC	Project Certificate
sp.	Species (taxonomy)
sp. nr.	Species near (taxonomy)
UNB	University of New Brunswick
WoRMS	World Register of Marine Species
WRIMS	World Register of Introduced Marine Species

8.0 NON-INDIGENOUS SPECIES/AQUATIC INVASIVE SPECIES (NIS/AIS)

This chapter presents the results of the Non-Indigenous Species (NIS) and Aquatic Invasive Species (AIS) monitoring program as a part of the larger Marine Environmental Effects Monitoring Program (MEEMP) conducted at Milne Port and in Milne Inlet during the 2024 open-water season. This monitoring component was developed to achieve the requirements outlined in the Project Certificate (PC) Conditions described in Chapter 1.0, Table 1-2, and specifically PC Conditions No. 76, 87, 89, 91, 99 (a), and 99 (c).

8.1.1 Objectives

The MEEMP objectives are outlined in Section 1.3 for the overall program. The objectives specific to the NIS/AIS monitoring program include the following:

- Sample marine environment to screen for potential Project-related introductions of taxa that are invasive or non-indigenous.
- Update taxonomic inventory of marine biota (i.e., list of organisms observed) for Milne Inlet.
- Communicate outcomes for specimens sent for independent verification.

8.1.2 Definitions

Definitions are provided below for technical terms used throughout this chapter. Definitions are written to align with federal and international standards, based on the Convention of Biological Diversity Decision VI/23 (CBDD) and Invasive Alien Species Strategy for Canada (Government of Canada 2004).

Aquatic invasive species (AIS): harmful non-indigenous species whose introduction or spread threatens the environment, the economy, or society (Government of Canada 2004).

cf.: “compare with”, in taxonomy refers to a taxonomic designation that indicates an inexact match to the indicated taxon. The specimen may represent a similar related species, an undescribed morph, or the specimen may be lacking characteristics (due to damage, lack of development of the features, or immaturity) that allow for a positive identification.

Conspecific: organisms belonging to the same species. Often used when there are two or more taxonomic names to describe the same currently accepted species.

Cryptogenic: a species that is not demonstrably native or introduced, a species with an obscure or unknown natural range (Carlton 1996).

forma (f.): or form, indicating a secondary rank classification that designates a group with a noticeable morphological deviation.

Genetic species: a term used to describe a taxon that is identifiable by DNA as a distinctly separate species from the described species within a genus, but a morphological description of that species does not yet exist.

Homotypic synonym: where there is more than one species name on record based on the same type taxon or species description. May occur when the taxon is independently described by separate taxonomists, or when species are renamed (e.g., moved from one genus to another).

indet.: “indeterminate”, used to indicate the specimen can be identified only to the listed taxonomic level, used for indeterminate taxonomic designations above genus. This is typically used for samples that were damaged, juvenile, or missing features preventing a conclusive identification beyond the indicated taxonomic level.

Morphospecies: A taxonomic species that is defined based solely on morphological characteristics. The term is often used when there are indications (i.e., through molecular means) of multiple species within the group.

Morphotype: An individual or specimen that displays a distinct morphological trait or form within a species.

Non-indigenous species (NIS): species introduced by human action outside their natural past or present distribution (Government of Canada 2004).

Representative species: or representative taxa/taxon. A described species from a genus or higher-level taxonomic group where only the higher-level taxonomic designation was identified in Milne Port. Where species level identifications are not made (i.e.,” indet.” or “sp.” identifications), literature and database searches for the NIS/AIS monitoring program include all representative species.

sp.: “species”, used to indicate the species name is indeterminate. This is typically used for samples identifiable to genus that were damaged, juvenile, or missing features preventing a conclusive identification to species level.

sp. nr.: “species near”, similar to “cf.”, but representing a species that is similar to the described species, however there are indications that the species is not a correct match. This may occur in poorly or newly described taxonomic groups where a specimen clearly matches the genus description but does not necessarily match the described species within it. May indicate a species that is new to science and lacks a description on record.

Species complex: A term used to describe a group of related organisms for which species boundaries are uncertain. Commonly, members of the group may appear to be morphologically the same species but there are indications of separate species (i.e., by molecular means), or there are indications of close relationships between species (i.e., the complex may be subspecies or forms under the same species name).

Other terms used throughout the report include the following:

Flagged taxa: Taxa are flagged where there is low confidence in their identifications, uncertainties in the range on record, or presence on any of the AIS databases.

High risk: A species is considered “High Risk” if it is:

- not reported to be present in the Canadian Arctic, or reported with high uncertainty
- capable of using shipping vectors
- listed as an AIS in other areas
- well-documented as having potentially serious invasive behaviours in ecosystems similar to Milne Inlet, and/or has shown invasive behaviours in Milne Inlet.

Low risk: A species is considered “Low Risk” if it is:

- not reported from the Canadian Arctic, or reported with high uncertainty, or species is not associated with shipping vectors (e.g., species presence is likely due to range expansion related to climate change)

- not listed on AIS databases, or if listed (or in the case of higher taxon identification, with one or more representative species listed on an AIS database) the representative species is/are unlikely to establish in the Arctic (e.g., tropical/subtropical), or, if listed as introduced to an area with similar conditions, the species is cryptogenic to the area of potential introduction
- not showing invasive behaviours in Milne Inlet

Moderate risk: A species is considered “Moderate Risk” if it is:

- not reported to be present in the Canadian Arctic, or reported with high uncertainty
- capable of using shipping vectors
- listed as an AIS in other areas, with no potentially serious behaviours reported in ecosystems similar to Milne Port
- has shown no invasive behaviours in Milne Inlet

No risk: A species is considered “No Risk” if it is:

- present in the Canadian Arctic prior to Project operations (2015). A species may also be considered “No Risk” where records exist from the Canadian Arctic in areas outside the Project’s area of influence, or distribution in waters adjacent to the Canadian Arctic provides high certainty that its range includes the Canadian Arctic
- not listed on AIS databases, or if listed, it is native to Canadian Arctic or the representative species is/are unlikely to establish in the Arctic (e.g., exclusively tropical/subtropical)

Trigger List: a list of High-Risk taxa that have been confirmed to be present in Milne Inlet and are showing invasive behaviour in Milne Inlet or have shown invasive behaviour in similar ecosystems; and, species not confirmed to occur in Milne Inlet that have been added to the Watch List in the High Risk category based on Project-specific risk assessment. Responsive actions will be species specific and proportional to the risk. There are currently no species on the Trigger List and, therefore, no species-specific response or action plans have been developed to date. Should a species be added to the Trigger List, a species-specific response plan would be developed in consultation with Fisheries and Oceans Canada (DFO).

Watch List: a list of taxa identified in Milne Inlet that are classified as Low Risk, Medium Risk or High Risk and are consequently subject to a heightened level of monitoring, which may include targeted sampling for DNA analysis or population assessment, and species not confirmed to occur in Milne Inlet that have been classified as Low, Moderate or High risk based on Project-specific risk assessment.

8.2 Study Design

NIS/AIS monitoring is conducted annually. Annual monitoring increases the data available for Milne Port, and is also important from a regional perspective, as this program currently represents the most intensive sampling for NIS/AIS in the Canadian Arctic and has contributed to filling regional knowledge gaps on biodiversity.

The NIS/AIS monitoring program is designed to detect potential introductions of non-indigenous and/or invasive species from potential Project-related vectors such as ballast water discharges or ship hull biofouling. Since ballast water releases only occur at the Ore Dock and anchorages in Milne Port, sampling conducted to date has largely focused on southern Milne Inlet as the area with highest likelihood of a potential marine invasion. Sampling of all survey components is conducted in southern Milne Inlet annually. Sampling has been conducted opportunistically in northern Milne Inlet at Ragged Island; however no ballast water is released at the Ragged Island anchorages.

NIS/AIS monitoring involves a combination of dedicated surveys as well as screening all specimens caught during surveys for all MEEMP components.

Dedicated surveys (Figure 8-1) conducted for the NIS/AIS program involve the following:

i) Zooplankton sampling

ii) Recruitment surveying using deployed settlement substrates

iii) Benthic infauna collection for DNA analysis if required to supplement the identification of taxa from the MEEMP benthic infaunal survey

Specimens collected during the following MEEMP components (Figure 8-2) are screened for the NIS/AIS monitoring program:

i) Benthic infaunal survey (Chapter 4.0)

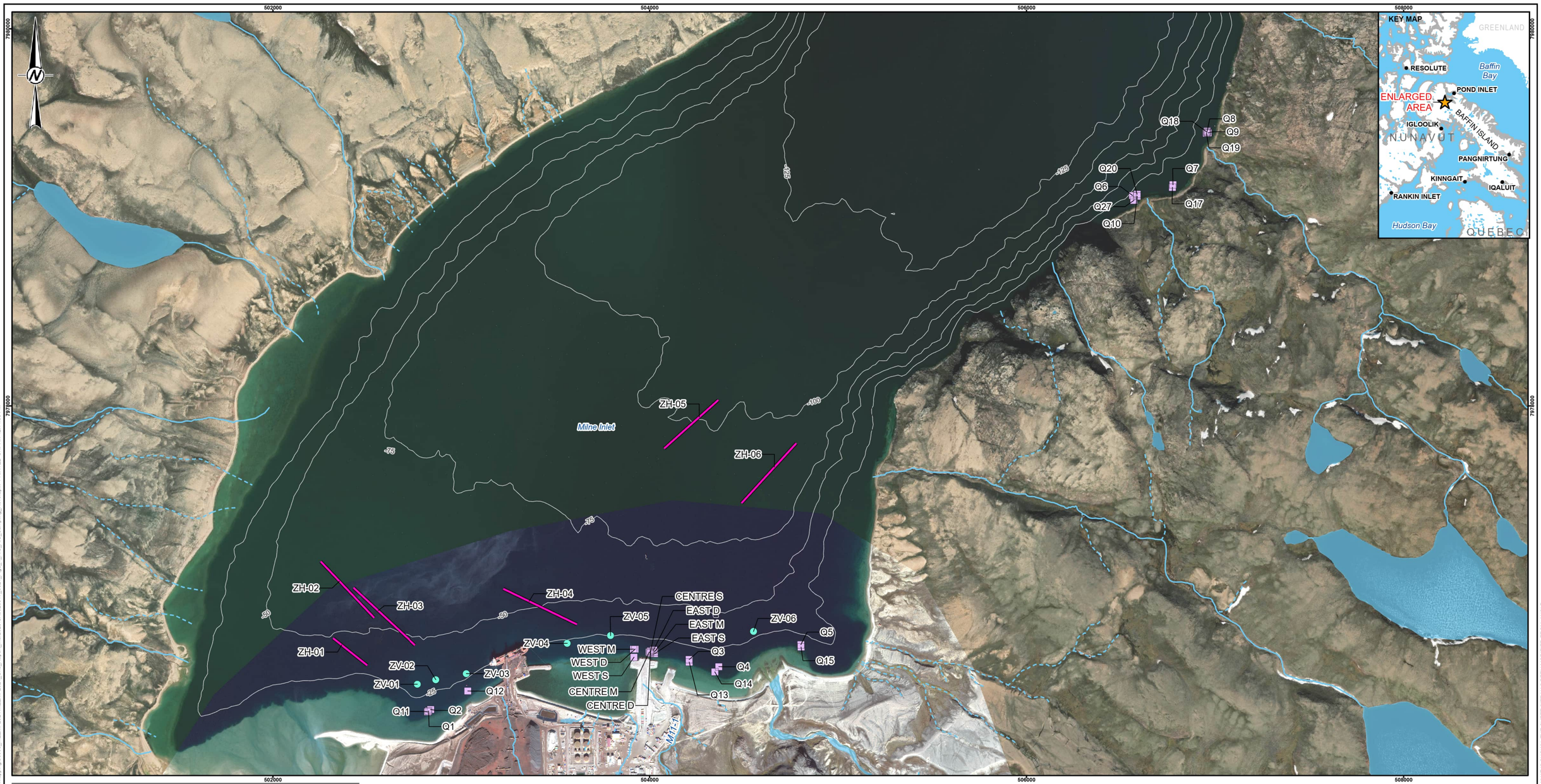
ii) Epifaunal and macroalgal survey (Chapter 5.0)

iii) Fish community survey (Chapter 6.0), including opportunistically collected macroalgae and invertebrates

iv) Fish health survey (i.e., taxa found in fish stomachs, fish parasites) (Chapter 7.0)

In years when Habitat Offsetting Monitoring Programs are conducted for the Milne Inlet Freight Dock, data obtained during epifaunal, macroalgal and fish transect surveys of the Freight Dock are also screened for the NIS/AIS monitoring program.

NIS/AIS monitoring therefore involves data collection across multiple trophic levels – marine vegetation, invertebrates, zooplankton, and fish – to establish a comprehensive inventory of existing marine biota in the Project area that serves as a point of reference for any new species/taxa identified (herein referred to as the “Milne Inlet Taxonomic Inventory”). The Milne Inlet Taxonomic Inventory was initially populated with the list of organisms identified during baseline studies in 2008 through 2014 and has been updated annually since 2015 with new records collected during MEEMP surveys.



LEGEND

- SETTLEMENT SUBSTRATE

ZOOPLANKTON

- VERTICAL TOW
- HORIZONTAL TOW
- BATHYMETRIC CONTOUR (25 m INTERVAL)
- INTERMITTENT WATERCOURSE
- WATERCOURSE
- WATERBODY

0 500 1,000

1:20,000 METRES

REFERENCE(S)

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PROJECTION: UTM ZONE 17 DATUM: NAD 83

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
MARY RIVER PROJECT

CONSULTANT
wsp

YYYY-MM-DD	2025-04-24
DESIGNED	CB
PREPARED	AA
REVIEWED	CB
APPROVED	AL

TITLE
SPECIFIC NONINDIGENOUS SPECIES/ AQUATIC INVASIVE SPECIES (NIS/AIS) SAMPLING LOCATIONS IN MILNE PORT, 2024

PROJECT NO.	CONTROL	REV.	FIGURE
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MILNE PORT MAP

KOLUKTOO BAY MAP

MILNE INLET MAP

Milne Inlet

Koluktoo Bay

Bruce Head

Tremblay Sound

Eclipse Sound

Ragged Island

Stephens Island

Poirier Island

SEE KOLUTOO BAY MAP

SEE MILNE PORT MAP

MILNE PORT

MM1-1

0 500 1,000

1:20,000 METRES

0 500 1,000

1:35,000 METRES

0 10 20

1:735,000 KILOMETRES

LEGEND

- BENTHIC INFAUNA
- BENTHIC INFAUNA/DNA ARCHIVE
- DNA ARCHIVE
- FISHING EFFORT
- QUADRAT
- FISHING EFFORT
- FREIGHT DOCK OFFSET HABITAT MONITORING
- FREIGHT DOCK OFFSET HABITAT PERIMETER SURVEY
- BATHYMETRIC CONTOUR (25 m INTERVAL)
- INTERMITTENT WATERCOURSE
- WATERCOURSE
- WATERBODY

REFERENCE(S)

BATHYMETRY CREATED BY GOLDER FROM MULTIPLE DATA SOURCES. HYDROGRAPHY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. MILNE PORT IMAGERY CAPTURED AUGUST 2020 © 2020 DIGITAL GLOBE, INC. ADDITIONAL IMAGERY COPYRIGHT © 20240718 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID. USED UNDER LICENSE, ALL RIGHTS RESERVED.
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CLIENT
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PROJECT
MARY RIVER PROJECT

CONSULTANT

YYYY-MM-DD	2025-04-24
DESIGNED	CB
PREPARED	AA
REVIEWED	CB
APPROVED	AL

TITLE
MEEMP SAMPLING LOCATIONS IN MILNE INLET USED TO INFORM NON-INDIGENOUS SPECIES / AQUATIC INVASIVE SPECIES (NIS/AIS) PROGRAM TAXONOMIC INVENTORY, 2024

PROJECT NO.	CONTROL	REV.	FIGURE
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8.2.1 Modifications to the Program (2024)

Sampling locations used for the 2024 NIS/AIS monitoring program are shown in Figure 8-1 (dedicated surveys of settlement substrates, zooplankton, and benthic infaunal samples for DNA analysis) and Figure 8-2 (MEEMP components presented in detail in Chapters 3.0 through 7.0). In 2024, samples from the Freight Dock Offset Habitat Monitoring Program (including samples from the Freight Dock and from a reference area located 2.25 km north of the dock in Milne Inlet) were also screened for potential NIS/AIS.

Program delays and time constraints in 2021 through 2023 had prevented collection of annual settlement substrates on the planned schedule at several stations. All annual samples intended for collection in 2024 and all multi-year substrates were collected, regardless of the year in which they were deployed, to align the program with the intended rotation. Substrates that had been deployed for longer than a year were preserved as a source of additional DNA samples. Freight Dock multi-year substrates were redeployed to align with the quadrat co-located substrates.

Zooplankton sampling was conducted in two events over the field season to capture variability in zooplankton populations. Six oblique (horizontal) and six vertical zooplankton samples were collected in Milne Port during each collection event.

Additional benthic infauna samples were collected and archived specifically for potential DNA analysis. Collection of archived DNA samples occurred at five stations in Milne Port selected for previous observations of Watch List taxa. Results for benthic specimens collected by MEEMP and NIS/AIS field programs in 2023 and provided to the Canadian Centre for DNA Barcoding (CCDB) at the University of Guelph for barcoding are presented in this report.

A collaboration with Dr. Gary Saunders and graduate student Olivia Reeves at the University of New Brunswick (UNB) to conduct a study of macroalgae collected during Baffinland's monitoring programs commenced in 2023. The archived macroalgae specimens that were collected by MEEMP and NIS/AIS field programs prior to 2024 were provided to Dr. Saunders and Ms. Reeves for confirmation of identification by molecular and/or microscopic taxonomic methodologies, as appropriate. The results of this review are presented in Appendix 8B-5. Macroalgae specimens collected in 2024 as part of the MEEMP, NIS/AIS and the concurrently conducted Milne Port Freight Dock Offset Habitat Monitoring field programs were preserved for molecular and microscopic taxonomic analysis by UNB and are presented in this report.

Benthic infauna sampling in 2024 focused on monitoring of eight "Capesize" stations adjacent to the Ore Dock (Chapter 4.0), which were screened for the presence of NIS/AIS. The "Capesize" sampling program relates to Baffinland's commitment that stations SW-1 through SW-4, SE18-1, SNW-1, and two new stations (SCV-1 and SCV-2) would be monitored for scouring effects on sediment and benthic infauna for three years after the initial use of large (Baby Cape and Capesize) ore carriers in fall 2023 (Commitment 10, SOP Technical Comment QIA ME-7(3); NIRB 2023). The radial transect sampling program for benthic infauna, which is conducted with a monitoring frequency of every three years, was not carried out in 2024 as it had been conducted in 2023.

The 2024 epifauna and macroflora survey was conducted as planned except that two quadrats located in Milne Inlet near the mouth of Phillips Creek could not be located by the dive team (Chapter 5.0). This did not affect the number of settlement substrates surveyed as substrates were not co-located with these quadrats. Additionally, Q16, dragged to deeper water in 2022 and therefore not sampled in 2022 or 2023, was relocated to its approximate original depth and subsequently renamed and surveyed as Q27. Its applicable associated substrates were collected in 2024, and redeployed substrates were aligned with the intended rotation.

In 2024, methods used for monitoring of the fish community were refined by focusing on angling (jigging), gill nets, hoop nets, and trawling, while the use of Fukui traps and angling (trolling) were discontinued (Chapter 6.0). Fishing efforts on the western and northwestern shores near Phillips Creek were increased in 2024 to further characterize the marine fish community in Milne Port.

In addition to gut contents of Fourhorn Sculpin and incidental mortalities of Arctic Char collected for fish health monitoring, parasites found on and in fish specimens were collected from Milne Port and Koluktoo Bay (Chapter 7.0).

8.2.2 Indicators and Thresholds

The NIS/AIS monitoring program was initially designed as a surveillance survey but over time has developed into an adaptive NIS/AIS management process. The process described below has been adjusted to align with terminology in Baffinland's Trigger Action Response Plan (TARP) (Baffinland 2021; Baffinland 2023).

The performance indicator of this program is "occurrence of an NIS/AIS in the Milne Inlet environment". Detection of a new taxonomic record that could potentially represent introduction of an NIS or AIS will initiate a response protocol aimed to assess the risk and determine the appropriate course of action.

Terminology for risk categories used in the NIS/AIS monitoring program was updated in the 2023 MEEMP report (WSP 2024) and was edited to improve clarity in 2024. The former risk categories for the NIS/AIS Monitoring Program were Low Risk / High Risk / Trigger List, but these have now been renamed to align with the risk categories used for other indicators in the TARP. Levels of risk are now named No Risk / Low Risk / Moderate Risk / High Risk.

Details of the risk condition categories, thresholds and pre-defined responses are presented in section 8.3.3.1.

8.3 Materials and Methods

8.3.1 Sample Collection for Taxonomic Identification

Sampling for the 2024 MEEMP and NIS/AIS monitoring programs was conducted between July 28 and August 19 by a field team composed of ten WSP or IMG WSP biologists including biologist/SCUBA divers, a BIM vessel operator, and two local Inuit field technicians from Pond Inlet and Igloolik, NU, respectively (BIM employees). Sampling was conducted from a 9.75-m aluminum vessel (research vessel) in addition to two inflatable tender vessels (6.1 m) based at the Milne Port facility.

8.3.1.1 Benthic Infauna, Macroflora and Benthic Epifauna, Fish and Incidentals

Screening to determine NIS/AIS status was conducted for all specimens caught or observed during surveys for MEEMP components, including benthic infaunal and epifaunal invertebrates (Chapter 4.0 and Chapter 5.0, respectively), macroflora (Chapter 5.0), fish species (Chapter 6.0), fish parasites and taxa found in fish stomachs (Chapter 7.0). Methodologies for these collections are described in the respective chapters of this report. Screening to determine NIS/AIS status was also carried out for all specimens caught or observed during surveys conducted for the Milne Port Freight Dock Offset Habitat Monitoring Program (WSP 2025).

Incidental samples were collected opportunistically during SCUBA surveys for macroflora and epifauna as well as during fishing efforts. Specimens of collected incidental taxa except for macroalgae were preserved in 10% formalin and submitted to Biologica Environmental Services Ltd. (henceforth referred to as “Biologica”; a Canadian marine and freshwater taxonomy laboratory) for taxonomic identification. Macroalgae specimens were provided to UNB preserved in silica gel for taxonomic identification by UNB using molecular (DNA) methodologies, with a corresponding morphological voucher specimen preserved in 10% formalin.

8.3.1.2 Settlement Substrates

Settlement substrates deployed from 2020 to 2023 in various locations throughout Milne Port were sampled in 2024 to monitor for recruitment of fouling taxa. Stations were located between -5 and -11 m water depth, along the east, north, and west faces of the Freight Dock as well as various depths co-located with the quadrats for epifauna and macroalgal monitoring (Figure 8-1, Table 8-1, Chapter 5.0). Three stations situated at the Ragged Island anchorage were not sampled in 2024 due to logistical constraints.

Each station was configured as four to five settlement baskets (filled with locally sourced cobble) and four to five settlement plates (each comprised of a 20 L plastic bucket lid oriented horizontally) attached to a line with a subtidal buoy (Figure 8-3). Settlement baskets and plates are sampled on annual and multi-year (ideally, three-year) schedules. Sampling involved retrieval of one settlement basket and one settlement plate that was deployed for multiple years, and their replacement with a clean settlement basket and plate. In subsequent years, the next settlement basket and plate in the series will be collected, which will have been deployed for (ideally) three years to represent short to medium term colonization. An additional plate and basket were collected annually and replaced with a new plate and basket to represent immediate term colonization.

The first settlement substrates were deployed in 2020 at the Freight Dock and quadrats Q1-Q10. Due to supply chain limitations associated with COVID-19 in 2020, the addition of new stations in 2021, the loss of some sampling locations in 2021 and 2022, and logistical issues and ice preventing access to all sampling locations in 2023, full sets of annual and multi-year plates and baskets were not available for all stations. Deployment year and soak time at recovery for all settlement substrates recovered in 2024 are described in Table 8-1. Due to the large number of collected substrates, a subset of collected substrates was submitted for analysis and the remainder were archived for potential future DNA analysis. Due to low colonization observed on annual substrates in previous years, the annual substrates were archived. Archived substrates are indicated in Table 8-1.

Plates were cut underwater to detach from the center line and placed within a collection bag and brought to the surface where they were placed in a clean sandbag with ambient water (to separate samples) and then placed in a tote of water. An internal label was created for each sample and placed with the substrate for later identification. The plates were photographed prior to processing. Samples intended for morphological identification were cut into quarters using a knife and then placed in a 4 L sample bucket. Samples intended for the DNA analysis archive were scraped using clean paint putty knives and/or clean butter knives, with scraped samples placed into appropriate jars (e.g., 52 mL vials, 120 mL glass jars, 500 mL plastic jars).

Baskets were brought to the surface and placed in clean 4 L buckets with ambient water. The cobbles were removed from the basket and photographed prior to processing. Samples intended for morphological identification were placed into a 4 or 8 L sample bucket, as necessary. As possible, visible macroalgae were removed with forceps and placed into labelled vials with silica gel for genetic and microscopic identification at UNB. Samples intended for the DNA analysis archive were scraped using clean paint putty knives and/or clean butter knives, with scraped samples placed into appropriate jars (e.g., 52 mL vials, 120 mL glass jars, 500 mL plastic jars).

Samples intended for morphological identification were preserved with 10% formalin while samples intended for DNA analysis were preserved with 80% ethanol. The sample containers were sealed and inverted several times to promote homogenization with the preservative. The containers were labelled internally and externally with water-resistant labels and sent to Biologica for morphological identification and/or DNA analysis of attached and motile invertebrates.



Figure 8-3: Quadrat settlement baskets and plates at Centre D, settlement plates with bobtail squid eggs at Q12, and settlement baskets at Centre S in 2024.

Table 8-1: Summary of Settlement Basket and Plate Stations

Station	Location (NAD 83 UTM 17W)		Depth (m below CD)	Substrate Sample Collected	Status	Year Deployed[1]	Date Retrieved
	Easting (m)	Northing (m)					
West S	503917	7976667	-5.3	Annual Basket and Plate	Archived	2023	Aug 6, 2024
				Multi-year Basket and Plate	Archived	2020	
West M[2]	503915	7976710	-9.1	Annual Basket and Plate	Archived	2023	Aug 6, 2024
				Multi-year Basket and Plate	Archived	2020	
West D[2]	503923	7976710	-9.1	Annual Basket and Plate	Archived	2023	Aug 6, 2024
				Multi-year Basket and Plate	Archived	2020	
Centre S	504003	7976689	-5.4	Annual Basket and Plate	Archived	2023	Aug 1, 2024
				Multi-year Basket and Plate	Archived	2020	
Centre M	503998	7976694	-8.2	Annual Basket and Plate	Archived	2023	Aug 1, 2024
				Multi-year Basket and Plate	Submitted	2020	
Centre D	504004	7976700	-11.2	Annual Basket and Plate	Archived	2023	Aug 1, 2024
				Multi-year Basket and Plate	Archived	2020	
East S	504026	7976686	-8.1	Annual Basket and Plate	Archived	2023	Aug 1, 2024
				Multi-year Basket and Plate	Archived	2020	

Station	Location (NAD 83 UTM 17W)		Depth (m below CD)	Substrate Sample Collected	Status	Year Deployed[1]	Date Retrieved
	Easting (m)	Northing (m)					
East M	504026	7976695	-9.6	Annual Basket and Plate	Archived	2023	Aug 1, 2024
				Multi-year Basket and Plate	Submitted	2020	
East D	504021	7976705	-11.3	Annual Basket and Plate	Archived	2023	Aug 1, 2024
				Multi-year Basket and Plate	Archived	2020	
Q1	502828	7976382	-8.8	Annual Basket and Plate	Archived	2023	Jul 31, 2024
				Multi-year Basket and Plate	Submitted	2020	
Q2	502839	7976390	-10.3	Annual Basket[3] and Plate[3]	Archived	2022	Jul 31, 2024
				Multi-year Basket[3] and Plate[3]	Submitted	2022	
Q3	504210	7976655	-10.3	Annual Basket and Plate	Archived	2023	Aug 1, 2024
				Multi-year Basket and Plate	Submitted	2020	
Q4	504367	7976617	-11.7	Annual Basket and Plate	Archived	2023	Aug 1, 2024
				Multi-year Basket and Plate	Submitted	2020	
Q5	504802	7976734	-11.5	Annual Basket and Plate	Archived	2023	Aug 6, 2024
				Multi-year Basket and Plate	Submitted	2020	
Q6	506562	7979116	-15.7	Annual Plate[3,4]	Archived	2022	Aug 8, 2024
				Multi-year Basket and Plate	Submitted	2020	
Q7	506776	7979173	-9.1	Annual Basket and Plate	Archived	2023	Aug 6, 2024
				Multi-year Basket and Plate	Submitted	2020	
Q8	506957	7979457	-9.9	Annual Basket and Plate	Archived	2023	Jul 29, 2024
				Multi-year Basket and Plate	Submitted	2020	
Q9	506962	7979448	-8.3	Annual Basket and Plate	Archived	2023	Jul 29, 2024
				Multi-year Basket and Plate	Submitted	2022, 2020	
Q10	506586	7979112	-6.4	Annual Basket and Plate	Archived	2023	Aug 6, 2024
				Multi-year Basket and Plate	Submitted	2020	
Q11	502823	7976378	-7.5	Annual Basket and Plate	Archived	2023	Jul 31, 2024
				Multi-year Basket and Plate	Submitted	2022, 2021	
Q12	503036	7976488	-11.4	Annual Basket and Plate	Archived	2023	Jul 31, 2024
				Multi-year Basket and Plate	Submitted	2022, 2021	
Q13	504210	7976641	-6.7	Annual Basket and Plate	Archived	2023	Aug 1, 2024
				Multi-year Basket and Plate	Submitted	2022, 2021	
Q14	504346	7976589	-7.7	Annual Basket and Plate	Archived	2023	Aug 1, 2024
				Multi-year Basket and Plate	Submitted	2022, 2021	
Q15	504803	7976721	-9.0	Annual Basket and Plate	Archived	2023	Aug 6, 2024
				Multi-year Basket and Plate	Submitted	2022, 2021	
Q17	506773	7979159	-8.6	Annual Basket and Plate	Archived	2023	Aug 6, 2024
				Multi-year Basket and Plate	Submitted	2022, 2021	

Station	Location (NAD 83 UTM 17W)		Depth (m below CD)	Substrate Sample Collected	Status	Year Deployed[1]	Date Retrieved
	Easting (m)	Northing (m)					
Q18	506956	7979452	-9.8	Annual Basket and Plate	Archived	2023	Jul 29, 2024
				Multi-year Basket and Plate	Archived	2022, 2021	
Q19	506953	7979447	-9.6	Annual Basket and Plate	Archived	2023	Jul 29, 2024
				Multi-year Basket and Plate	Archived	2022, 2021	
Q20	506586	7979123	-10.0	Annual Basket and Plate	Archived	2023	Aug 6, 2024
				Multi-year Basket and Plate	Archived	2022, 2021	
Q27[5]	506569	7979090	-5.0	Multi-year Plate[6]	Archived	2021	Aug 8, 2024

[1] Two listed years indicates the year of deployment of the basket and plate (respectively), if different.

[2] West M and D Stations are co-located.

[3] Substrate was out of sync due to collected and/or redeployment issues in previous years.

[4] Annual basket was lost from Q6 during collection and could not be sampled.

[5] Q16 was repositioned to its approximate original depth (-5.0 m CD) after having been moved into deeper water (-9.1 m CD) in 2022 due to vessel anchor dragging the quadrat. This quadrat was removed from analysis/discontinued and renamed Q27 with a new time series.

[6] Baskets and annual plates were not attached to Q16 before it was dragged. A new set of baskets was added to Q27 in 2024 with an annual plate.

8.3.1.3 Zooplankton

Zooplankton samples were collected using vertical and horizontal oblique tows over two sampling events in the middle of the open water season (Figure 8-1, Table 8-2). Vertical hauls were conducted at six sampling stations in Milne Port by lowering a 0.3 m diameter (64 µm mesh size) plankton net to a depth of 1 m to 3 m above the bottom and then raising the net by hand to the surface at a rate of approximately 1 m/s (visually estimated). Three replicate hauls were conducted at each station and combined into a single composite sample following methodology from previous years (WSP 2024).

Oblique tows were conducted by towing a 0.5 m diameter net (250 µm mesh size) for a period of 10-12 minutes per tow. The net was towed in a sinusoidal fashion by means of regular transitions in tow speed (1-minute towing at a speed of 8-10 km/h, 1-minute idling), which allowed the weighted net to periodically sink and rise during active sampling. This helped avoid sampling only in the upper few metres of the water column. The sinusoidal oblique tow approach and larger mesh size is used to help catch a more representative sample of larger zooplankton in the water column and to catch faster moving larvae (e.g., fish larvae, larger crustaceans) than is possible with the vertical tow method. Where required, transects were towed in sections to allow for clearing of the plankton net, and samples were carefully flushed into a sample container as a single composite sample for each transect.

Once the sample was transferred to the sample container, ambient seawater was splashed or sprayed on the outside of the net to rinse any remaining sample into the container. Between each tow, the nets and bottles were rinsed (either flushed with sea water or by using a spray bottle filled with sea water through the net mesh to exclude organisms). All zooplankton samples were preserved in 5% formalin and submitted to Biologica for taxonomic identification. Laboratory methodologies are detailed in Appendix 8D-3.

Table 8-2: Zooplankton Sampling Locations 2024

Station Name	Sampling Dates (2024)	UTM Coordinates			
		Start		End	
		Easting	Northing	Easting	Northing
Horizontal ObliqueTows[1]					
ZH-01	August 2, August 17	502500	7976624	502319	7976768
ZH-02	August 2, August 17	502253	7977175	502537	7976876
ZH-03	August 2, August 17	502427	7977036	502755	7976731
ZH-04	August 6, August 17	503615	7976841	503224	7977030
ZH-05	August 6, August 17	504364	7978031	504077	7977774
ZH-06	August 6, August 17	504778	7977802	504487	7977484
Vertical Tows					
ZV-01	August 2, August 17	502768	7976524	-	-
ZV-02	August 2, August 17	502866	7976548	-	-
ZV-03	August 2, August 17	503028	7976580	-	-
ZV-04	August 2, August 17	503563	7976741	-	-
ZV-05	August 2, August 17	503793	7976782	-	-
ZV-06	August 2, August 17	504551	7976804	-	-

[1]Waypoints for horizontal oblique tows are targeted coordinates. Actual survey track varied between each survey event.

8.3.2 Samples Collected for Genetic Analysis

In 2024, targeted benthic infaunal sampling occurred at five stations in Milne Port where potential high-risk taxa that were placed on the program Watch List had been collected in previous years (Table 8-3).

Table 8-3: Benthic Stations Selected for DNA Barcoding and Targeted Taxa (Putative Identifications)

Station	UTM Coordinates (17W)		Taxa of Interest
	Easting	Northing	
SW-2	503064	7976526	*Marenzelleria* sp.
SW-11	502146	7976494	*Marenzelleria* sp.
SW-14	501797	7976360	*Marenzelleria* sp.
SE18-1	503433	7976699	*Paramphitrite birulai*
SNW-1	503303	7976751	*Paramphitrite birulai* *Hesperonoe* sp.

These samples were collected and processed in a manner similar to the other benthic infauna samples (Chapter 4.0), however, the samples were preserved in 95% ethanol, rather than formalin, to allow for DNA analysis should specimens resembling the flagged taxa be identified.

Settlement substrates that were otherwise not required for 2024 sampling were preserved as a source of additional DNA samples (Table 8-4). DNA sample substrates were 'scraped' as follows:

- Identifiable larger epifauna taxa were picked off the substrate and added to 52 mL vials and preserved with 95% ethanol. These samples, and "preserved whole" samples were reviewed by Biologica for target taxa (as described above). Additionally, to help address difficulties in monitoring for introductions of biofouling organisms and to further build the taxonomic inventory, specimens from encrusting-type taxa (i.e., tunicates and bryozoans) or difficult to identify taxa were selected for DNA analysis. Morphological identification prior to preparation for DNA analysis was only performed on large or robust specimens to prevent the loss of viable material.
- Macroalgae was separated, when possible, by taxonomic group (brown, red and green algae if identifiable) and placed in labelled 1.5 mL centrifuge tubes with silica gel. These samples were sent to UNB for microscopic and genetic identification.
- The remainder of the sample was scraped with a paint scraper into 52 mL vials and preserved with 95% ethanol. These samples were archived. Future analysis of these samples may include targeted analysis for sequences of interest, or broader meta-barcoding.

Any whole specimen or tissue samples of taxa required for DNA verification, other than macroalgae, were sent to CCDB for barcoding. Macroalgae were sent to UNB for barcoding.

Table 8-4: Settlement Substrates Collected for Genetic Analysis

Station	Substrate Sample Collected	Preservation Method[1]	Preservative
East S	Annual Basket and Plate	Scraped – Annual FD Composite	Ethanol (80%)
	Multi-year Basket and Plate	Scraped – Multi-Year FD Composite	Ethanol (80%)
East M	Annual Basket and Plate	Scraped – Annual FD Composite	Ethanol (80%)
East D	Annual Basket and Plate	Scraped – Annual FD Composite	Ethanol (80%)
	Multi-year Basket and Plate	Scraped – Multi-Year FD Composite	Ethanol (80%)
Center S	Annual Basket and Plate	Scraped – Annual FD Composite	Ethanol (80%)
	Multi-year Basket and Plate	Scraped – Multi-Year FD Composite	Ethanol (80%)
Center M	Annual Basket and Plate	Scraped – Annual FD Composite	Ethanol (80%)
Center D	Annual Basket and Plate	Scraped – Annual FD Composite	Ethanol (80%)
	Multi-year Basket and Plate	Scraped – Multi-Year FD Composite	Ethanol (80%)
West S	Annual Basket and Plate	Scraped – Annual FD Composite	Ethanol (80%)
	Multi-year Basket and Plate	Scraped – Multi-Year FD Composite	Ethanol (80%)
West M	Annual Basket and Plate	Scraped – Annual FD Composite	Ethanol (80%)
	Multi-year Basket and Plate	Scraped – Multi-Year FD Composite	Ethanol (80%)
West D	Annual Basket and Plate	Scraped – Annual FD Composite	Ethanol (80%)
	Multi-year Basket and Plate	Scraped – Multi-Year FD Composite	Ethanol (80%)
Q1	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)

Station	Substrate Sample Collected	Preservation Method[1]	Preservative
Q2	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
Q3	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
Q4	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
Q5	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
Q6	Annual Plate	Scraped	Ethanol (80%)
Q7	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
Q8	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
Q9	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
Q10	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
Q11	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
Q12	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
Q13	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
Q14	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
Q15	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
Q17	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
Q18	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
	Multi-year Plate	Scraped – Multi-Year Q-P Composite	Ethanol (80%)
	Multi-year Plate	Scraped – Multi-Year Q-B Composite	Ethanol (80%)
Q19	Annual Basket	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
	Multi-year Plate	Scraped – Multi-Year Q-P Composite	Ethanol (80%)

Station	Substrate Sample Collected	Preservation Method[1]	Preservative
	Multi-year Basket	Scraped – Multi-Year Q-B Composite	Ethanol (80%)
Q20	Annual Plate	Scraped	Ethanol (80%)
	Annual Basket	Scraped	Ethanol (80%)
	Multi-year Plate	Scraped	Ethanol (80%)
	Multi-year Basket	Scraped	Ethanol (80%)
Q27	Multi-year Plate	Scraped	Ethanol (80%)

[1] Substrate samples were composited for listed samples. Composites were separated by annual and multi-year samples and contained both plates and baskets within the composites. FD = Freight Dock, indicating only Freight Dock samples were included in that composite. Q = Quadrat, indicating only quadrat samples (plates [P] or baskets [B]) were included in that composite.

In 2024, results from analysis of specimens collected for DNA in 2023 were not available at the time of report submission. These results are presented in this report. Methodologies for analysis of the 2023 specimens are available in Appendix 8B-9.

8.3.3 Data Analysis

8.3.3.1 Risk Condition Categories, Thresholds, and Responses

Definitions of the risk condition categories, thresholds, and pre-defined responses are as follows (Table 8-5):

Table 8-5: Risk Condition Categories and Responses to Detections of New Taxa Records in the NIS/AIS Monitoring Program

(a) No Risk

Description of Risk Condition	Response
Taxon was previously reported in Canadian Arctic prior to Project operations, and/or in the Canadian Arctic outside of the Project's area of influence[1]. AND The identified species or representative species[2] of the taxon are not listed in an Aquatic Invasive Species database.	Taxon is added to the taxonomic inventory for Milne Inlet.
OR	
Taxon was reported in Canadian Arctic prior to Project Operations and/or in the Canadian Arctic outside of the Project's area of influence[3].	Targeted literature review is conducted. Taxon is added to the taxonomic inventory for Milne Inlet.

[1] Area of influence is considered to include Milne Inlet and areas potentially influenced by Project shipping routes (including, but not limited to, areas of Baffin Bay and Eclipse Sound).

[2] Representative species are used in the case where identification of a collected organism to the species level has not been possible. If, at the level to which the organism is identifiable, any species in the taxon are listed in an invasive species database, a targeted literature review will be conducted for all listed species (i.e., these listed species are considered representative species for this taxon).

[3] Area of influence is considered to include Milne Inlet and areas potentially influenced by Project shipping routes (including, but not limited to, areas of Baffin Bay and Eclipse Sound).

Description of Risk Condition	Response
AND Species or representative species are listed in an Aquatic Invasive Species database but the native range (or range prior to Project operations) includes the Project area OR targeted literature review has determined that the AIS-listed species (including representative species) is unlikely to establish in the ecosystem conditions of the Project area. AND Targeted literature review of the taxon has determined low likelihood of identification matching the list of known AIS and/or low likelihood of establishment of the listed AIS in the Project area.	

(b) Low Risk

Description of Risk Condition	Response
At least one of the following must be met. Taxon is not reported as present in Canadian Arctic or there is low certainty as to its presence. OR There is low confidence in the identification (includes species pending verification), where related species are listed in AIS databases and there is potential for survival in the Project area. OR Taxon is undergoing range expansion into Milne Inlet that is attributed to factors or vectors unrelated to Project shipping (e.g., climate change).	Specimens are sent for independent taxonomic verification, and if possible, DNA analysis. Targeted literature review of the taxon (when first detected, and updated in subsequent years when taxon is detected). Ongoing monitoring, including routine sampling in MEEMP with attention to areas where the taxon was previously detected, to determine if it is established in Milne Inlet, and detect any indicators of invasive behaviour (e.g., from community metrics and distribution data). Taxon is added to Project Watch List. The risk status of the taxon will be reassessed each year it is detected.

(c) Moderate Risk

Description of Risk Condition	Response
Taxon is not reported as present in Canadian Arctic, or reported with high uncertainty. AND Taxon is capable of using shipping vector(s).	Specimens are sent for independent taxonomic verification, and if possible, DNA analysis. Targeted literature review (when first detected and repeated annually, even if not detected in that year).

Description of Risk Condition	Response
AND Taxon is listed as an AIS in other locations, with no potentially serious behaviours reported in ecosystems similar to Milne Port. AND Taxon is not yet confirmed to show those behaviours in Milne Inlet.	Heightened monitoring (i.e., annual targeted sampling at sites where taxon has been previously observed, to monitor for changes in community metrics and distribution data). Taxon is added to Project Watch List. The risk status of the taxon will be reassessed each year it is detected

(d) High Risk

Description of Risk Condition	Response
Taxon is not reported as present in Canadian Arctic, or reported with high uncertainty. AND Taxon is capable of using shipping vector(s). AND Taxon is listed as an AIS in other locations. AND <u>At least one of the following</u> Taxon or closely related species has well-documented and potentially serious invasive behaviours (e.g., habitat disruption or displacement of native species) in other areas. OR Taxon shows evidence of invasive behaviour in Milne Inlet including but not limited to the species dominating the relative abundance, or reductions in species diversity and richness at sites where the species occurs; competition or predation on native taxa; habitat destruction; and/or dispersal/establishment from site of initial detection.	Specimens are sent for independent taxonomic verification, and if possible, DNA analysis. Targeted literature review (when first detected and repeated annually, even if not detected in that year). Heightened monitoring (i.e., annual targeted sampling at sites where taxon has been previously observed, to monitor for changes in community metrics and distribution data). The risk status of the taxon will be reassessed each year even it is not detected. Taxon is added to Project Watch List and is considered for addition to Trigger List. Taxon will be added to Trigger List if it shows invasive behaviours in Milne Port. Addition to the Trigger List triggers development of a Rapid Response Plan for the taxon, to be determined in consultation with DFO in accordance with the most updated version of Canadian Rapid Response Framework for Aquatic Invasive Species (i.e., updates to Locke et al. 2011).

8.3.3.2 Detection

Data analysis focused on taxa presence, rather than enumeration. Should a potential NIS/AIS be detected, relative abundance and related metrics will be examined as part of heightened monitoring.

All specimens except for macroalgae were initially sent to Biologica for taxonomic identification, with specimens identified to the lowest possible taxonomic level. Macroalgal specimens removed from samples sorted by Biologica or those sorted in the field will be sent to UNB for identification.

Detection involved screening the taxonomic list received from annual survey efforts against the Milne Inlet Taxonomic Inventory (all taxa observed across all baseline and monitoring surveys) to identify new records (taxa that have not been observed previously) and taxa that have been previously flagged for heightened monitoring which would require an updated review. Taxa are subjected to a process of investigation to assess risk as outlined in Table 8-5.

8.3.3.3 Literature Review

Taxa were assessed further through literature review to determine if their known distributions and ranges included North Atlantic, Arctic and/or Canadian Arctic waters, whether the taxon had a history as an AIS somewhere else in the world, and to check for changes in the taxonomic nomenclature. The Milne Port Taxonomic Inventory was updated to include any new or updated accepted species names for any previously identified species.

Information on general species biology and distributions for the literature review was sourced from the following:

- World Register of Marine Species (WoRMS 2025)
- Global Biodiversity Information Facility (GBIF 2025)
- AlgaeBase (Guiry and Guiry 2025)
- Arctic Register of Marine Species (ARMS) compiled by the Arctic Ocean Diversity (ArcOD 2025, Sirenko et al. 2025)
- Arctic species inventories published or accessed through the Ocean Biogeographic Information System (UNESCO 2025)

In addition, specimens were also compared against the following global and domestic AIS databases and resources:

- Global invasive species database (Molnar et al. 2008)
- National Exotic Marine and Estuarine Species Information System (NEMESIS; Fofonoff et al. 2018)
- Global Invasive Species Database (GISD) published by the IUCN Invasive Species Specialist Group (ISSG 2025)
- Known invasive species list within the National Risk Assessment for Introduction of Aquatic Nonindigenous Species to Canada by Ballast Water (Casas-Monroy et al. 2014)
- High-risk AIS in the Hudson Bay Region and Canadian Arctic identified using the Canadian Marine Invasive Screening Tool (CMIST) (Goldsmit et al. 2021)

- World Register of Introduced Marine Species (WRIMS; Costello et al. 2025)
- Invasive Species Compendium published by CABI (Centre for Agriculture and Bioscience International; CABI 2025)
- AquaNIS information system on aquatic non-indigenous and cryptogenic species (CRPI 2025)
- The Arctic Invasive Alien Species: Strategy and Action Plan developed by CAFF (Conservation of Arctic Flora and Fauna) and PAME (Protection of the Arctic Marine Environment) (CAFF and PAME 2017)
- Regional specific invasive species Watch List informational brochure (Government of Nunavut 2016).

8.3.3.3.1 Distribution Categories

Based on the range on record for each taxon, a value was assigned to each new observation to express the distance to the closest record as a descriptor of distribution. Methods for describing the distribution categories followed those of Goldsmit et al. (2014), adjusted for the Project location (Figure 8-4). Each taxon was assigned a value of 1 to 5 based on the locations of the closest records to the project area, where:

- A value of 1 indicated there were previous records “Within the Region”. The region was defined as Milne Inlet between the Milne Port Site and Ragged Island[4].
- A value of 2 indicated that there was no record within the immediate region, however there was a record from the “Surrounding Region”. Boundaries for the surrounding region included the Eastern Canadian Arctic and Davis Strait.
- A value of 3 indicated that records existed for the taxon in other regions of the Canadian Arctic, or “Arctic Outside Region”. Boundaries included the Western Canadian Arctic and Hudson Bay.
- A value of 4 indicated the taxon had a “Circumpolar/Circumboreal Distribution” on record, indicating the taxon was recorded in other locations within the Arctic, or had a generally described Arctic distribution, with no georeferenced collections in the Arctic Outside Region.
- A value of 5 indicated the taxon had a “Wider Distribution” on record that did not clearly include records within circumpolar or circumboreal regions.

Supporting information on distribution for each taxon (as requested by MEWG members) was summarized by indicating the closest Marine Ecoregions of the World (MEOW; Spalding et al. 2007) where specimens had been recorded in the scientific literature or databases listed above. Based on biology or ecosystem connectivity, species in nine Arctic ecoregions listed below were considered to have a reasonable probability of having a natural range that would include Milne Port. All ecoregions represent coastal and shelf waters shallower than 200 m, with seaward boundaries extending 370 km (200 nautical miles) offshore or to 200 m depth (whichever is further offshore). Relevant Arctic Ecoregions applicable to MEEMP surveys are as follows (in approximate order of proximity to the Project area):

[4] Due to the limited number of species surveys that have occurred in this region in comparison to MEEMP survey efforts, it is anticipated that most new observations in the program will not fall into this category.

- **Baffin Bay–Davis Strait** – Davis Strait north of Cape Dyer to the northern extent of Baffin Bay, including the eastern extent of Lancaster Sound. Milne Port is located within this ecoregion. This ecoregion falls within the boundaries of distribution categories 1 and 2.
- **Lancaster Sound** – The Lancaster Sound region of the southern Arctic Archipelago, including Devon Island, Sommerset Island, Cornwallis Island, as well as the eastern and southern coastlines of Prince of Wales Island and Bathurst Island. This ecoregion falls within the boundaries of distribution categories 1, 2 and 3.
- **High Arctic Archipelago** – The Arctic Archipelago north of Lancaster Sound and Viscount Melville Sound. This ecoregion falls within the boundaries of distribution categories 2, 3 and 4.
- **Northern Labrador** – Northern Labrador Sea at Davis Inlet to Southern Davis Strait at Cape Dyer, including the eastern extent of Hudson Strait. This ecoregion includes Iqaluit and Frobisher Bay. This ecoregion falls within the boundaries of distribution categories 2 and 4.
- **Hudson Complex** – Includes the waters of Hudson Bay, James Bay, Hudson Strait, and Foxe Basin, as well as the eastern extent of Fury and Hecla Strait. This ecoregion falls within the boundaries of distribution category 3.
- **West Greenland Shelf** – Coastal and shelf waters of Western Greenland approximately between Cape York and Nûk. This ecoregion falls within the boundaries of distribution categories 2 and 4.
- **North Greenland** – Coastal and shelf waters of North Greenland approximately between Cape York and Danmarkshavn. This ecoregion falls within the boundaries of distribution categories 2 and 4.
- **East Greenland Shelf** – Coastal and shelf waters of North Greenland approximately between Danmarkshavn and Nûk. This ecoregion falls within the boundaries of distribution category 4.
- **Beaufort–Amundsen–Viscount Melville–Queen Maud** – The southern Arctic Archipelago west of the Lancaster Sound ecoregion, extending west past Cape Perry. This ecoregion falls within the boundaries of distribution category 3.

An uncertainty value was also provided to indicate the confidence in the available data used to place the specific taxon within the appropriate distribution category.

- **Low uncertainty** indicates that the available data are robust and well reviewed. It is assumed that the range on record is an accurate description for the taxon.
- **Moderate uncertainty** indicates that there is some uncertainty in the range on record or limited collection records, and that there is a reasonable probability that range may be broader or narrower than described in the available literature.
- **High uncertainty** indicates that the range on record is likely incomplete and not representative of the probable range. High uncertainty will be more likely for newly described species, or rarer species that are underrepresented in collections.

Taxa with distribution categories of 1 and 2 were generally assumed to be “No Risk” and were not subjected to further review. Further review of taxa with a value of 3 may occur where there is moderate to high uncertainty in the range on record. Taxon with a distribution category value of 4 was flagged for further literature review, and potential independent external review. Taxon with a distribution category value of 5 was automatically flagged for independent external review. Moderate to High uncertainty scores were applied to uncertain taxonomic designations (i.e., “cf.” taxa) or where genetic species have not yet been described.

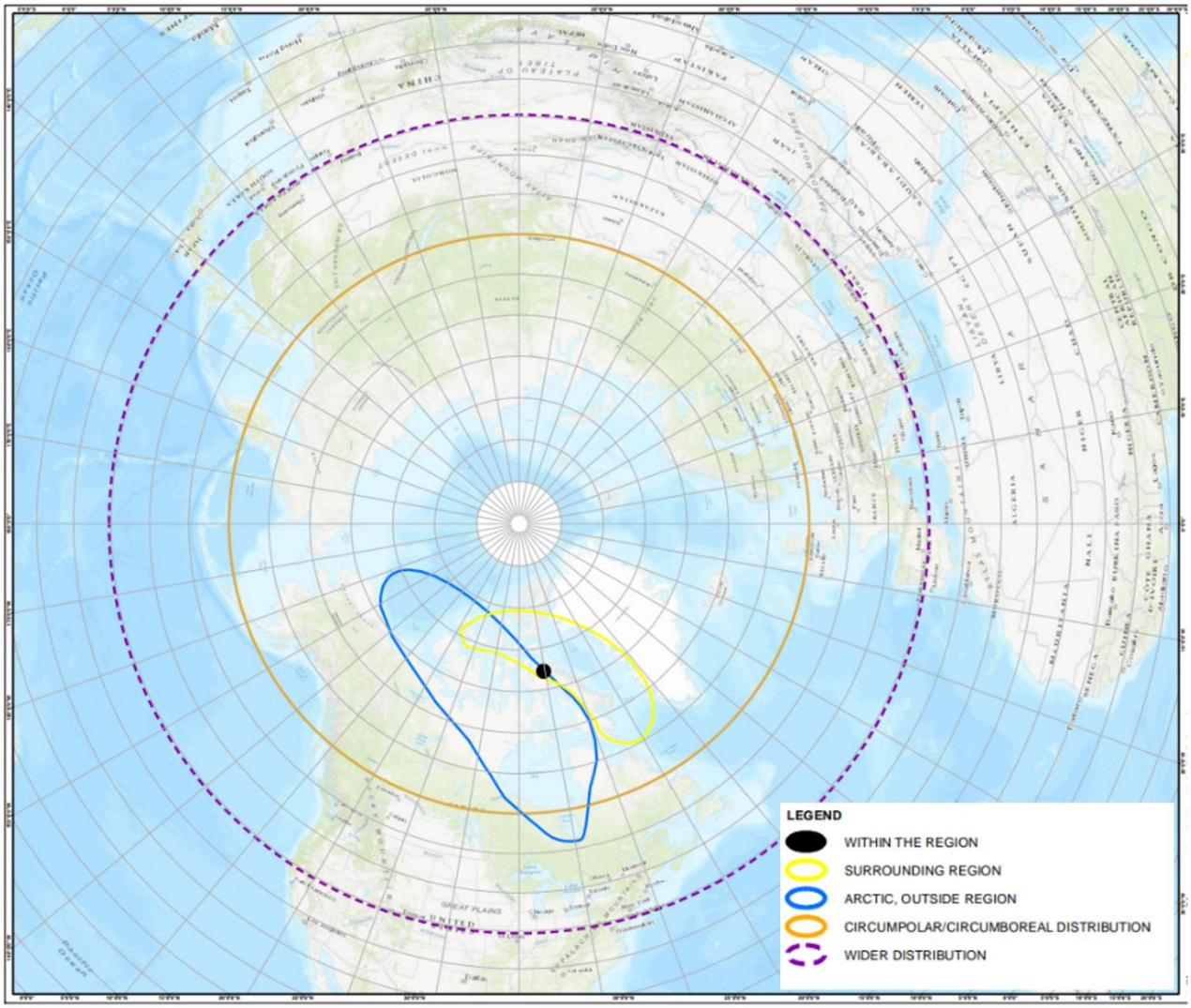


Figure 8-4: Approximate regions for taxonomic distribution categories used to define closest records. Adapted from Goldsmit et al. (2014).

8.3.3.3.2 Limitations

Specimens were not always identified to the species level due to a variety of limitations such as incomplete or disputed morphological descriptions available for some taxonomic groups, missing or undeveloped (juvenile) features, or damage to specimens. These specimens were recorded to the lowest practical taxonomic level as indet. (indeterminate) or sp. (species) when identifiable to the genus level. When an inexact match to a species was made, the designations cf. (compare with) and sp. nr. (species near) were used to indicate the specimen was similar to or represented an unknown species near to the indicated taxon, respectively (see Section 8.1.2 Definitions). For literature review, where taxa were not identifiable to the species level, the distribution or range of the higher taxon to which the specimen was identified was examined. For example, if a specimen from Milne Inlet could only be identified to genus, and the databases revealed that no species within that genus had ranges that included the Canadian Arctic, the specimen was flagged for further review.

Determining the status of some taxa was complicated by lack of data as well as poor or unreliable records. Biodiversity and species assemblages in the Canadian Arctic are not well studied, particularly in comparison to the Eurasian Arctic (Sirenko et al. 2025, Figure 8-5). Surveys and species inventories in the Canadian Arctic are not exhaustive, and species descriptions may not include a comprehensive description of range. Rarer and more recently described taxa may not have a report of occurrence or range on record within Canadian Arctic waters despite having the potential to be present. In many areas of the Canadian Arctic, much of the survey effort was undertaken in the 1970s or 1980s, and species inventories reflect the taxonomy of the time which may have changed due to subsequent taxonomic revisions, sometimes leading to uncertainty as to which species was recorded.

Species where the native range is unknown, disputed, or uncertain are considered cryptogenic, being unable to be classified as native or introduced in a given region (Carlton 1996). The introduction status of these species is unknown either due to lack of information or disagreement among multiple lines of evidence and may represent a substantial proportion of species in an area, for example, cryptogenic species in San Francisco Bay, California, represented 37% of the total of introduced and cryptogenic species, despite over 30 years of study of NIS in the area (Carlton 1996). In this study, a species may be considered cryptogenic to the Project area if the described range includes the Western North Atlantic and Arctic waters outside of the Eastern Canadian Arctic.

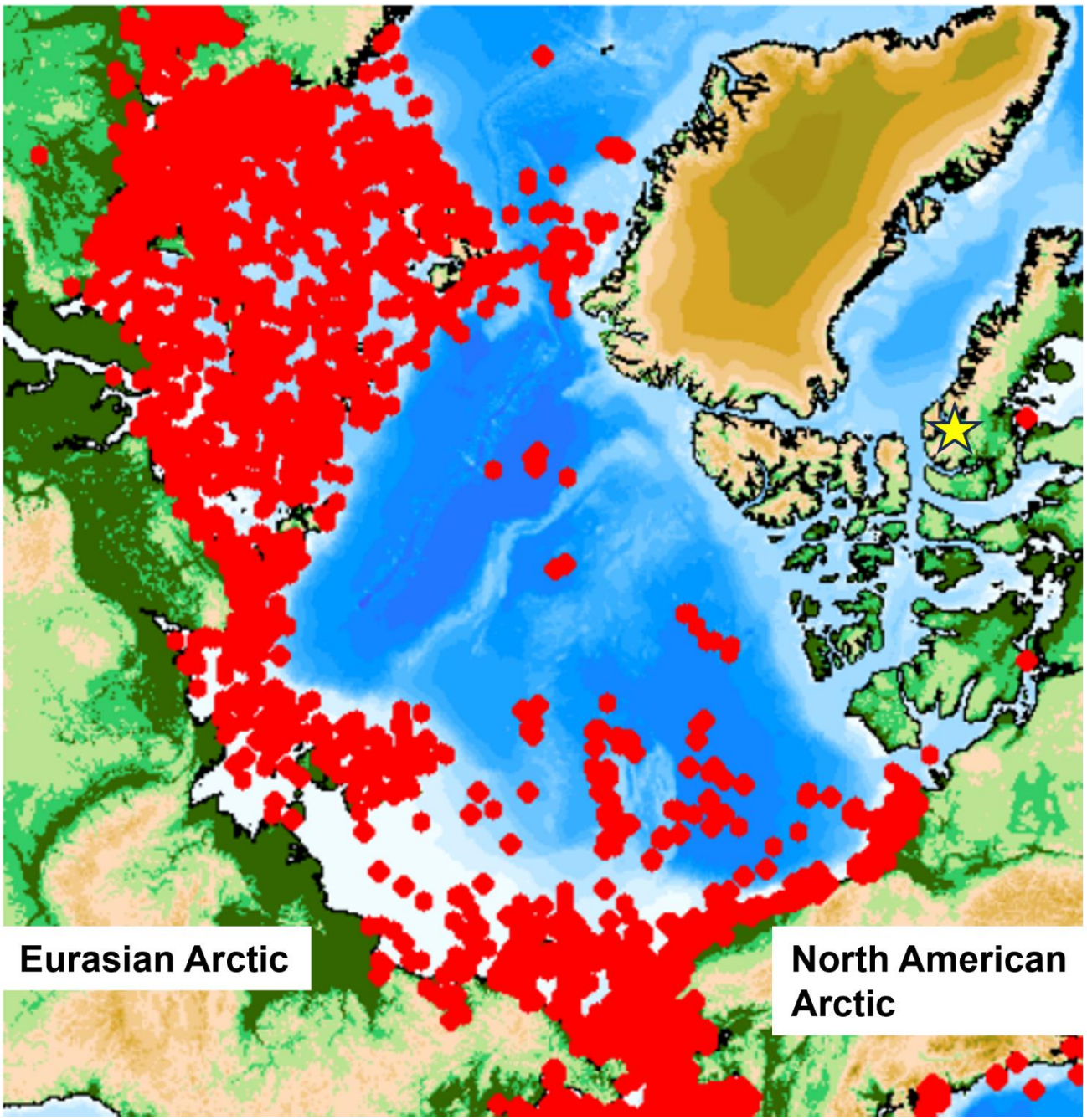


Figure 8-5: Arctic species datasets available through ArcOD (the centralized international database and species inventory of Arctic Ocean Diversity, www.arcodiv.org), one of the sources of information reviewed for species records, illustrating the discrepancy between the number of published studies in Canadian waters (right side) compared to other areas of the Arctic Ocean (left side). Image produced by ArcOD (2025). Yellow star indicates Project area.

8.3.3.4 Independent Verification of Identification

Following literature review, specimens that are flagged as requiring closer examination would undergo secondary taxonomic review by Biologica and would in most cases be sent for independent verification to the Benthic Ecology Lab at Université Laval (Laval). Where taxa are flagged due to being obscure or newly described, specimens may be sent for verification with the specialist who made the initial taxonomic description, or a related expert in the taxonomic group instead of to Laval. Following a review by Laval, specimens would be forwarded to specialists in specific taxonomic groups if further clarification was required.

Samples are sent for independent verification if they are flagged as potential non-indigenous or invasive species. Other reasons for independent verification included the existence of a new species description in the scientific literature that might affect a previous identification, limited information on the distribution, or uncertainty in the identification.

8.4 Results

8.4.1 Taxonomic Identification

8.4.1.1 Benthic Infauna

Benthic infaunal sampling in 2024 was conducted at eight stations in Milne Port, yielding a total abundance of 22,457 infaunal organisms representing 157 taxa, or 124 unique taxa (i.e., where a higher taxonomic level was not also represented by a lower taxon) (Appendix 8A-1, 8A-2). Of these, one taxon was considered a “new record”, meaning it was not found in previous surveys in Milne Inlet; the new record is presented in Table 8-6, along with a description of the distribution on record.

Chaetozone anasima was a tentative identification given to a terebellid specimen from benthic infaunal samples. *Chaetozone anasima* is a relatively recently described species with no described range on record. Currently, the species is only known to occur in two locations in the northeastern USA: Massachusetts Bay and Georges Bank (Gulf of Maine) (Doner and Blake 2006, Blake 2022). Morphologically similar to *C. setosa* and *C. curvata*, *C. anasima* may be misidentified as either of these species (Doner and Blake 2006, Blake 2022). Specimens identified as *Chaetozone* sp., and as part of the *Chaetozone setosa* complex have been identified in Milne Port since baseline surveys, however, the specimens identified in 2024 had distinct features that differentiated them from the *Chaetozone setosa* complex. The specimens collected in 2024 and identified as *Chaetozone anasima* may represent a refining of *Chaetozone* sp., rather than a new identification for Milne Port.

Additionally, one taxon from the Watch List was collected. Two specimens of the terebellid polychaete *Paramphitrite birulai* were collected in 2024 at two stations. Collection records for this species indicated a broad range including the European North Atlantic, the Western North American Arctic, and the European Arctic (WoRMS 2025; GBIF 2025, Jirkov 2020), as well as indications of a cryptogenic presence in the Adriatic Sea, (Costello et al. 2025, Loia et al. 2017), which led to the species being placed as Low Risk on the Watch List in 2020. Independent review of specimens in 2023 by Dr. Julio Parapar, a specialist in terebellid polychaetes, concluded that while the specimen closely matched the most recent descriptions for *P. birulai*, features required for positive identification were missing (Parapar 2023, pers. comm.). Additionally, Dr. Parapar noted features on the third segment that are not described for any of the known species in this genus, indicating further review is required to determine whether these specimens represent an undescribed species.

Table 8-6: List of Newly Recorded Taxa Identified In Quadrat Surveys at Milne Inlet in 2024, with Description of Distribution on Record

Phylum (Division) Class/Order	Family	Taxon	Description	Distribution References	Distribution Category[a]	Relevant Ecoregions on Record[b]	Uncertainty[c]
Polychaeta							
Sedentaria / Terebellida	Cirratulidae	*Chaetozone anasima*	Specimens were a close match to a recently described species that has no range description. Known only from initial area of collection.	1, 2	5 Wider Distribution	-	High

Notes: Taxa identified to the lowest practical taxonomic level; *indicates non-unique taxa; indet.= indeterminate (taxa which could not be identified beyond the taxonomic level listed); sp.=species.
[a] Distribution categories indicate the proximity to the Project of the closest georeferenced collection of the taxon, where category 1: Within the Region, 2: Surrounding Region, 3: Arctic, Outside Region, 4: Circumpolar/Circumboreal Distribution, 5: Wider Distribution. Distribution categories are defined in Section 8.3.2.1.1
[b] Ecoregion are delineated in Spalding et al. 2007 and herein refer to 1. Baffin Bay-Davis Strait; 2. Lancaster Sound; 3. High Arctic Archipelago; 4. Northern Labrador; 5. Hudson Complex; 6. West Greenland Shelf; 7. North Greenland Shelf; 8. East Greenland Shelf; 9. Beaufort-Amundson-Viscount Melville-Queen Maud
[c] Uncertainty indicates confidence in the data available for the range on record. Uncertainty categories (Low, Moderate, and High) are described in Section 8.3.2.1.1
Taxa distribution references: 1: Donner and Blake 2006; 2: Blake 2022.
All taxa cross-referenced with NIS/AIS resources: Fofonoff et al. 2018, ISSG 2025, Costello et al. 2025, Molnar et al. 2008, Casas-Monroy et al. 2014.

8.4.1.2 Macroflora and Benthic Epifauna

In 2024, a review of the existing macroalgal collection was conducted by Dr. Gary Saunders at UNB. The results of this review are presented in Appendix 8B-5. Additional macroalgal collections were performed opportunistically during quadrat surveys, collection of settlement substrates (see Section 8.3.1.2), and during monitoring of offset habitat at the Freight Dock (WSP 2025).

A total of 54 distinct macroflora and epifauna taxa were recorded during quadrat surveys in Milne Inlet in 2024, 20 of which were identifiable to the species level. Of these, only one taxon (*Pandalus montagui*) was considered a new record for Milne Port surveys; the new record is presented in Table 8-7, along with a description of the distribution on record.

A total of 68 macroalgae taxa were identified in Milne Port surveys, this included 42 taxa identifiable to described species, in addition to 19 taxa that were considered to have distinct features or sequences, but did not match known descriptions of any species or matched sequences of currently undescribed species. The remaining seven taxa were lacking features to resolve the identification to lower taxonomic levels. Readable sequences were not able to be generated for all specimens. Where sequences were obtained, molecular data was compared to publicly available sources. Of these macroalgae taxa, 48 were considered new records for Milne Port. These new records are presented in Table 8-7, along with descriptions of the distribution on record. The complete list of identified taxa is presented along with the fish and incidental taxa in Appendix 8B-1.

No taxa from the Program Watch List were detected during permanent quadrat surveys and four taxa were flagged for review (*Chaetomorpha* sp. 3GWS, *Desmarestia ligulata*, *Antithamnion* cf. *sparsum*, and *Polysiphonia kapraunii*).

Table 8-7: List of Newly Recorded Taxa Identified In Quadrat Surveys at Milne Inlet in 2024, with Description of Distribution on Record

Phylum (Division) Class/Order	Family	Taxon	Description	Distribution References	Distribution Category[a]	Relevant Ecoregions on Record[b]	Uncertainty[c]
Arthropoda							
Malacostraca / Decapoda	Pandalidae	*Pandalus montagui*	A cold-water shrimp species with a well-established presence in the North Atlantic and Canadian Arctic.	1, 2, 3, 4	2 Surrounding Region	1, 4, 5	Low
(Chlorophyta)							
Chlorophyceae / Acrosiphoniales	Acrosiphoniaceae	*Acrosiphonia* sp. 3GWS**	A genetic species that has not been described. Collections indicate a potential North Atlantic range, including Churchill.	5, 6	3 Arctic, Outside Region	5	High
Chlorophyceae / Acrosiphoniales	Acrosiphoniaceae	*Acrosiphonia* sp. 6GWS	A genetic species that has not been described. Collection records indicate a North Atlantic range, including Churchill.	5, 6, 7, 8	3 Arctic, Outside Region	5	High
Chlorophyceae / Acrosiphoniales	Acrosiphoniaceae	*Acrosiphonia* sp. 8GWS**	A genetic species that has not been described. Collection records indicate a North Atlantic range, including Baffin Island and Churchill.	7, 8	2 Surrounding Region	1, 5	High
Ulvophyaceae / Cladophorales	Cladophoraceae	*Chaetomorpha brachygona*	Broadly distributed but with no clear Arctic record. Northern records may be underrepresented due to morphological similarities with other species.	25	4 Circumpolar / Circumboreal Distribution	-	Moderate
Ulvophyaceae / Cladophorales	Cladophoraceae	*Chaetomorpha* sp. 3GWS	A genetic group with a single collection from Maine. Flagged for review.	8	5 Wider Distribution	-	High

Phylum (Division) Class/Order	Family	Taxon	Description	Distribution References	Distribution Category[a]	Relevant Ecoregions on Record[b]	Uncertainty[c]
Ulvophyaceae / Cladophorales	Cladophoraceae	*Rhizoclonium riparium*	A broadly distributed species, with collection records in the Eastern Canadian Arctic, including Ragged Island.	1, 2, 8, 10, 12, 13, 14, 18, 23	1 Within Region	1, 2, 5, 6, 8, 9	Low
Ulvophyceae / Ulotrichales	Ulotrichaceae	*Ulothrix flacca*	A broadly distributed species, with collection records in the Eastern Canadian Arctic.	1, 2, 5, 9, 10, 11, 12, 13, 14, 15	2 Surrounding Region	1, 2, 3, 4, 5, 6, 8, 9	Low
Ulvophyceae / Ulotrichales	Ulotrichaceae	*Ulothrix subflaccida*	A broadly distributed species, with collection records in the Eastern Canadian Arctic.	2, 10, 13, 14, 23	2 Surrounding Region	1, 2, 3, 5, 6, 8, 9	Low
Ulvophyceae / Ulotrichales	Ulotrichaceae	*Ulothrix* sp. 1Nunavut**	A genetic species within the genus *Ulothrix*, the specimens were not a match to any described species or sequences on record.	-	-	-	High
Ulvophyceae / Ulotrichales	Ulotrichaceae	*Urospora penicilliformis*	A broadly distributed species, with collection records in the Eastern Canadian Arctic.	1, 2, 10, 12, 13, 14, 15, 23	2 Surrounding Region	1, 2, 4, 5, 6, 8, 9	Low
Ulvophyceae / Ulvales	Ulvaceae	*Ulvaria splendens*	A broadly distributed species, with collection records in the Eastern Canadian Arctic.	1, 2, 5, 10	2 Surrounding Region	4, 5, 6	Low
Heterokontophyta							
Bacillariophyceae / Naviculales	Berkeleyaceae	*Berkeleya* sp.	Diatom genus with an uncertain taxonomic record. Collection records indicate that taxa matching the morphological description of this genus are present in the Canadian Arctic.	1, 2, 13, 15, 16, 17, 18, 19	1 Within Region	1, 3, 5, 8	Moderate

Phylum (Division) Class/Order	Family	Taxon	Description	Distribution References	Distribution Category[a]	Relevant Ecoregions on Record[b]	Uncertainty[c]
Bacillariophyceae / Naviculales	Berkeleyaceae	*Parlibellus* sp.	Diatom genus with an uncertain taxonomic record. Collection records indicate that taxa matching the morphological description of this genus are present in the Canadian Arctic.	20	2 Surrounding Region	2	High
(Ochrophyta)							
Phaeophyceae / Desmarestiales	Desmarestiaceae	*Desmarestia ligulata*	Broadly distributed species with Arctic records limited to the European Arctic. Flagged for review.	1, 2	4 Circumpolar / Circumboreal Distribution	-	Low
Phaeophyceae / Desmarestiales	Desmarestiaceae	*Desmarestia* sp. 1Arctic	Specimens were not a morphological match for any described species, but matched an unidentified *Desmarestia* sequenced from collections at Ragged Island in 2009. Considered a novel species from the Arctic.	18	1 Within Region	1	High
Phaeophyceae / Ectocarpales	Acinetosporaceae	Acinetosporaceae_Gen sp. 1AP2016	Specimens were not a morphological match for any described species, but matched unidentified sequences from collections at Ragged Island in 2004.	6, 18	1 Within Region	1, 4	High
Phaeophyceae / Ectocarpales	Chordariaceae	*Ascoseirophila* sp. 1violodora**	Genetic species. Sequencing places this specimen as a sister species to the only described species in the genus.	-	-	-	High

Phylum (Division) Class/Order	Family	Taxon	Description	Distribution References	Distribution Category[a]	Relevant Ecoregions on Record[b]	Uncertainty[c]
Phaeophyceae / Ectocarpales	Chordariaceae	*Chordaria chordaeformis*	Relatively newly described species with a broad range and a clear Eastern Canadian Arctic record.	5, 7, 8, 10, 14	2 Surrounding Region	1, 4, 5, 7	Low
Phaeophyceae / Ectocarpales	Chordariaceae	*Chordaria flagelliformis*	A broadly distributed species, with collection records in the Eastern Canadian Arctic.	1, 2, 5, 8, 10, 11, 12, 13, 14, 23	2 Surrounding Region	1, 2, 3, 4, 5, 6, 8, 9	Low
Phaeophyceae / Ectocarpales	Chordariaceae	*Elachista* sp. 1Arctic	Genetic species identified from Churchill and James Bay.	12	3 Arctic, Outside Region	5	High
Phaeophyceae / Ectocarpales	Chordariaceae	*Litosiphon* sp. 1Arctic	Morphologically placed within the genus, but distinct from the only described *Litosiphon* species. Considered a novel species.	-	-	-	High
Phaeophyceae / Ectocarpales	Chordariaceae	*Microspongium* sp. 4GWS	A genetic group with collections from British Columbia and Alaska	6, 8	4 Circumpolar / Circumboreal Distribution	-	High
Phaeophyceae / Ectocarpales	Chordariaceae	*Polycerea borealis*	A boreal and Arctic species with limited collection records	8, 10, 12, 26	4 Circumpolar / Circumboreal Distribution	4	Moderate
Phaeophyceae / Ectocarpales	Chordariaceae	*Punctaria* sp.	A genus with multiple species recorded in the Eastern Canadian Arctic	1, 2, 5, 7, 8, 10, 13, 14, 15, 16, 18, 23	1 Within Region	1, 2, 3, 4, 5, 6, 8, 9	Low

Phylum (Division) Class/Order	Family	Taxon	Description	Distribution References	Distribution Category[a]	Relevant Ecoregions on Record[b]	Uncertainty[c]
Phaeophyceae / Ectocarpales	Chordariaceae	*Saundersella doloresiae*	Newly described species with collections from Northern Labrador and indications of potential range to Greenland	10, 12, 26	4 Circumpolar / Circumboreal Distribution	4	Moderate
Phaeophyceae / Ectocarpales	Ectocarpaceae	*Ectocarpus* sp.	Unknown species matching sequences collected in the Bay of Fundy and Greenland. Genus has multiple species with Eastern Canadian Arctic ranges.	1, 2, 8, 10, 13, 14, 18, 23	1 Within Region	1, 3, 4, 5, 6, 8, 9	Low
Phaeophyceae / Ectocarpales	Ectocarpaceae	*Ectocarpus* sp. 1siliculosus	Unknown species matching sequences collected in Northern Labrador and Hudson Bay	2, 8	3 Arctic, Outside Region	4, 5	Moderate
Phaeophyceae / Ectocarpales	Scytosiphonaceae	*Petalonia arctica*	Newly described species from the Eastern Canadian Arctic.	8, 10, 12, 26	3 Arctic, Outside Region	4, 5	Low
Phaeophyceae / Ectocarpales	Scytosiphonaceae	*Petalonia fascia*	Cold water species with a well-documented presence in the Eastern Canadian Arctic	1, 2, 5, 7, 8, 10, 13, 14, 15, 23	2 Surrounding Region	1, 2, 3, 4, 5, 6, 8, 9	Low
Phaeophyceae / Ectocarpales	Scytosiphonaceae	*Planosiphon filiformis*	Cold water species with a documented presence in the Eastern Canadian Arctic	1, 2, 7, 8, 10, 12	3 Arctic, Outside Region	4, 5	Low

Phylum (Division) Class/Order	Family	Taxon	Description	Distribution References	Distribution Category[a]	Relevant Ecoregions on Record[b]	Uncertainty[c]
Phaeophyceae / Ectocarpales	Scytosiphonaceae	*Scytosiphon shibazakiorum***	A recently described species that may be misidentified as morphologically similar species. Considered to have a broad range that includes the Eastern Canadian Arctic.	10, 12, 21, 22	3 Arctic, Outside Region	5	Moderate
Phaeophyceae / Ectocarpales	Scytosiphonaceae	*Scytosiphon* sp. 1crust	Unknown species matching sequences collected in Churchill	6, 8	3 Arctic, Outside Region	5	High
Phaeophyceae / Ralfsiales	Ralfsiaceae	*Ralfsia* sp.	A genus of crustose brown algae with a broad global range. Records include multiple species within the Eastern Canadian Arctic.	1, 2, 5, 10, 11, 12, 13, 14, 15, 23	2 Surrounding Region	1, 2, 3, 4, 5, 6, 8, 9	Low
Phaeophyceae / Ralfsiales	Ralfsiaceae	*Ralfsia* sp. 1Arctic	Genetically placed within the genus, but distinct from the described and sequenced *Ralfisa* species. Considered a novel species.	-	-	-	High
Phaeophyceae / Sphacelariales	Stypocaulaceae	*Protohalopteris radicans*	Crustose species with a documented range that includes the Eastern Canadian Arctic	1, 2, 5, 8, 10, 11, 13, 14, 23	3 Arctic, Outside Region	4, 5, 6, 8	Low
Phaeophyceae / Tilopteridales	Halosiphonaceae	*Halosiphon* sp. 2tomentosus	Genetic species documented in the Eastern Canadian Arctic	5, 7, 8	3 Arctic, Outside Region	4, 5	High

Phylum (Division) Class/Order	Family	Taxon	Description	Distribution References	Distribution Category[a]	Relevant Ecoregions on Record[b]	Uncertainty[c]
Phaeophyceae / Tilopteridales	Phyllariaceae	*Saccorhiza dermatodea*	A North Atlantic and Arctic Ocean species that is well documented in the Eastern Canadian Arctic.	1, 2, 10, 13, 14, 23	2 Surrounding Region	1, 2, 3, 5, 6, 8	Low
Phaeophyceae / Tilopteridales	Tilopteraceae	*Haplospora globosa*	A northern species that is documented in the Eastern Canadian Arctic.	1, 2, 5, 7, 8, 10, 13, 16, 23	1 Within Region	1, 2, 4, 5, 8, 9	Low
Phaeophyceae / Tilopteridales	Tilopteraceae	Tilopteridalean sp. 2GWS	A genetic species documented from Baffin Island and north Alaska	7, 8	2 Surrounding Region	1	High
Phaeophyceae / Tilopteridales	Tilopteraceae	Tilopteridalean sp. 3GWS	A genetic species documented from Alaska	7, 8	4 Circumpolar / Circumboreal Distribution	-	High
(Rhodophyta)							
Florideophyceae / Acrochaetiales	Acrochaeticeae	*Grania efflorescens*	Genetic match to sequences thought to be this species. Broadly distributed with Eastern Canadian Arctic range.	1, 2, 10, 13, 14, 15, 23, 26	2 Surrounding Region	1, 2, 3, 5, 6, 8, 9	Low
Florideophyceae / Ceramiales	Ceramiaceae	*Antithamnion* cf. *sparsum*	Suspected false positive. Match to sequences thought to be an NIS to Nova Scotia. Flagged for review.	27	5 Wider Distribution	-	High
Florideophyceae / Ceramiales	Rhodomelaceae	*Polysiphonia kapraunii*	Species limited to warmer temperate and sub-tropical waters. Potential mismatch due to method limitations. Flagged for review.	10	5 Wider Distribution	-	High
Florideophyceae / Ceramiales	Rhodomelaceae	*Rhodomela sibirica***	Arctic species with records in Milne Inlet prior to Project operations.	1, 2, 7, 10, 12, 26	1 Within Region	1, 3, 5	Low

Phylum (Division) Class/Order	Family	Taxon	Description	Distribution References	Distribution Category[a]	Relevant Ecoregions on Record[b]	Uncertainty[c]
Florideophyceae / Corallinales	Lithophyllaceae	*Titanoderma pustulatum*	Suspected false positive. Broadly distributed species with a range that includes the European Arctic and the western North Atlantic	1, 2, 12	4 Circumpolar / Circumboreal Distribution	-	High
Florideophyceae / Hapalidiales	Hapalidiaceae	*Boreolithothamnion lemoineae***	Recent redescription. Collection records indicate species present in Eastern Canadian Arctic prior to Project operations.	8, 10, 12, 24	2 Surrounding Region	1, 4, 9	Low
Florideophyceae / Hapalidiales	Hapalidiaceae	*Leptophytum foecundum***	Genus has undergone recent revision and taxonomy is uncertain. Specimens matching the description have a range including the Eastern Canadian Arctic.	1, 2, 7, 10, 13, 18, 23	1 Within Region	1, 2, 3, 4, 6, 8, 9	Moderate
Florideophyceae / Hapalidiales	Hapalidiaceae	*Leptophytum laeve***	Genus has undergone recent revision and taxonomy is uncertain. Specimens matching the description have a range including the Eastern Canadian Arctic.	1, 2, 10, 13, 23	2 Surrounding Region	1, 2, 3, 4, 5, 6, 8, 9	Moderate

Notes: Taxa identified to the lowest practical taxonomic level; *indicates non-unique taxa; **indicates readable sequences were generated for the specimens collected in 2024; indet.= indeterminate (taxa which could not be identified beyond the taxonomic level listed); sp.=species.
[a] Distribution categories indicate the proximity to the Project of the closest georeferenced collection of the taxon, where category 1: Within the Region, 2: Surrounding Region, 3: Arctic, Outside Region, 4: Circumpolar/Circumboreal Distribution, 5: Wider Distribution. Distribution categories are defined in Section 8.3.2.1.1
[b] Ecoregion are delineated in Spalding et al. 2007 and herein refer to 1. Baffin Bay-Davis Strait; 2. Lancaster Sound; 3. High Arctic Archipelago; 4. Northern Labrador; 5. Hudson Complex; 6. West Greenland Shelf; 7. North Greenland Shelf; 8. East Greenland Shelf; 9. Beaufort-Amundson-Viscount Melville-Queen Maud
[c] Uncertainty indicates confidence in the data available for the range on record. Uncertainty categories (Low, Moderate, and High) are described in Section 8.3.2.1.1
Taxa distribution references: 1: WoRMS 2025; 2: GBIF 2025; 3: OBIS 2011; 4. Roy et al. 2015;.5: Saunders and McDevit 2013; 6: NLM 2024; 7: Bringloe 2018; 8: BOLD 2025; 9: Charette et al. 2020; 10: Guiry and Guiry 2025; 11: Ellis and Wilce 1961; 12: Saunders 2023; 13: Mathieson et al. 2010; 14: Lund 1959; 15: Wilce and Dunton 2014; 16: Cross et al. 1987; 17: Snow et al. 1987; 18: Küpper et al. 2016; 19: Lobban 1984; 20: Conlan and Kvitek 2005; 21: McDevit and Saunders 2017, 22: Hoshino et al. 2021; 23: Lee 1980; 24: Gabrielson et al. 2023. 25: Blair 1983, 26: Saunders 2024, 27: Brooks and Krumhansl 2023.
All taxa cross-referenced with NIS/AIS resources: Fofonoff et al. 2018, ISSG 2025, Costello et al. 2025, Molnar et al. 2008, Casas-Monroy et al. 2014.

8.4.1.3 Settlement Substrates

A total of 16 plates and 16 baskets were submitted for analysis. The remaining substrates, including all annual deployments, were scraped and preserved in ethanol to be archived for potential future molecular analysis.

A total of 107 invertebrate taxa were identified on settlement substrates (Appendix 8C-1). None of these taxa were considered new records, meaning each taxon, or representative taxa had been observed in previous surveys in Milne Inlet. No taxa from the Program Watch List were detected and no taxa were flagged for review. Macroalgae identifications from settlement substrates are described along with collections from quadrat surveys in Section 8.4.1.2.

8.4.1.4 Zooplankton

Taxonomic data of zooplankton collected from 12 stations in Milne Port are presented in Appendix 8D-2. Zooplankton taxa presence/absence from baseline years to 2024 is presented below in Table 8-8, with a complete list provided in Appendix 8D-1. A total of 60 zooplankton taxa were observed in the 2024 samples, all of which had been detected previously in Project monitoring and were known to have natural ranges that include the Project area.

Two taxa (*Gammarus* sp. and Stichaeidae indet.) were observed for the first time in zooplankton samples in 2024, but these taxa, or representative lower taxonomic levels, have been observed previously in other survey methods in Milne Port. No new taxa were observed, no taxa from the Program Watch List were detected and no taxa were flagged for review.

Table 8-8: Zooplankton Taxa Presence in Milne Inlet During NIS/AIS Monitoring in 2024 Compared to Previous Survey Years (Baseline years, 2016-2020, 2022, 2023)

Taxa	Baseline[(a)]	2016	2017	2018	2019	2020	2022	2023	2024
Polychaeta indet.*	x	x	x	x	x	x	x	x	x
Oweniidae indet.*								x	x
Acari indet.*								x	x
Crustacea indet.*			x	x	x		x	x	x
Bosminidae indet.**			x			x	x	x	x
Chydorus sphaericus		x							x
Daphnia sp.***	x					x	x	x	x
Copepoda indet.*	x	x		x	x	x	x	x	x
Calanoida indet.*	x		x	x	x	x	x	x	x
Acartia longiremis	x	x	x		x	x	x	x	x
Acartia sp.*	x	x	x	x	x	x		x	x
Calanus finmarchicus	x	x	x	x	x	x	x	x	x
Calanus glacialis	x	x	x	x	x	x	x	x	x
Calanus hyperboreus	x	x	x	x	x	x	x	x	x
Calanus sp.*			x	x	x	x	x	x	x
Centropages sp.	x			x				x	x

Taxa	Baseline[a]	2016	2017	2018	2019	2020	2022	2023	2024
Microcalanus sp.			x	x	x	x	x		x
Pseudocalanus sp. complex*	x	x	x	x	x	x	x	x	x
Scolecithricella sp.			x	x					x
Cyclopoida indet.*			x	x	x	x	x	x	x
Cyclops sp.*								x	x
Oithona sp.*	x	x	x	x	x	x	x	x	x
Oncaeidae indet.*		x	x					x	x
Triconia borealis		x	x					x	x
Harpacticoida indet.*		x		x	x	x	x	x	x
Microsetella norvegica	x	x	x	x	x	x	x	x	x
Gammarus sp.*									x
Hyperiidae indet.*				x	x		x	x	x
Themisto libellula			x	x	x	x	x		x
Themisto sp.	x		x	x			x	x	x
Onisimus sp.				x			x		x
Crangonidae indet.				x					x
Sabinea septemcarinata			x	x			x	x	x
Isopoda indet.*			x	x	x	x	x	x	x
Erythrops sp.				x					x
Balanomorpha indet.*			x	x	x	x	x	x	x
Chironomidae indet.***						x		x	x
Chaetognatha indet.		x						x	x
Parasagitta elegans	x		x	x	x	x	x	x	x
Fritillaria sp.*	x	x		x	x	x		x	x
Oikopleura sp.*	x		x	x	x	x	x		x
Gadidae indet.			x	x	x		x		x
Ammodytes sp.*				x		x	x	x	x
Stichaeidae indet.*									x
Hydrozoa indet.*								x	x
Euphysa sp.	x			x	x		x	x	x
Pandeidae indet.*						x	x	x	x
Aeginopsis laurentii			x	x	x		x	x	x
Aglantha digitale	x		x	x	x	x	x	x	x
Ctenophora indet.	x				x		x	x	x
Beroe sp.*				x			x	x	x
Echinoidea indet.*			x	x	x	x		x	x

Taxa	Baseline[a]	2016	2017	2018	2019	2020	2022	2023	2024
Ophiuroidea indet.*							x	x	x
Bivalvia indet.*	x	x	x	x	x	x	x	x	x
Gastropoda indet.*			x	x	x	x	x	x	x
Clione sp.*								x	x
Clione limacina	x		x	x	x	x	x	x	x
Limacina helicina	x		x	x	x	x	x	x	x
Limacina sp.*	x	x	x			x	x	x	x
Nemertea indet.			x					x	x

Notes: Taxa in bold indicate the first observation of the taxa during MEEMP and NIS/AIS surveys. Taxa identified to the lowest practical taxonomic level; presence/absence for previous years taken from SEM 2015, 2016, 2017, Golder 2018, Golder 2019, Golder 2020, Golder 2021, WSP 2023, WSP 2024. *=Species or taxa from lower taxonomic levels identified in other survey years and/or in other survey methods; **=Freshwater taxon; ***= Incidental (benthic or terrestrial taxa or life stages); indet.= indeterminate (taxa could not be identified beyond the taxonomic level listed); sp.=species.

(a) Baseline includes zooplankton observations in 2008, 2010, 2014, and 2015.

8.4.1.5 Fish and Incidentals

Throughout fish surveys at Milne Inlet, some species were targeted and caught intentionally (such as fish sampled for fish community and fish health monitoring; reported in Chapters 6.0 and 7.0) while other species were collected or observed incidentally (such as taxa observed during monitoring of offset habitat; see WSP 2025). In 2024 MEEMP surveys, 91 taxa were collected, captured, or observed incidentally and of these, four taxa were newly recorded in MEEMP surveys (Table 8-9). The full list of incidental taxa (also including macroflora and epifauna described in Section 8.4.1.2) is available in Appendix 8B-1; laboratory results are in Appendices 8B-2 and 8B-3.

The taxa observed or caught incidentally in MEEMP and NIS/AIS surveys were screened against a global database of marine invasive species and none of the taxa were identified as a globally-recognized invasive species (Molnar et al. 2008) or an invasive species in Canada according to the National Risk Assessment for Introduction of Aquatic Nonindigenous Species to Canada by Ballast Water (Casas-Monroy et al. 2014). In addition to these databases, each taxon was researched independently in the literature for their known habitats and distributions to detect taxa that may be considered non-native to the Arctic region. For taxa that were not identified to the species level, it was confirmed that the identified higher-level taxa had at least one representative species with a distribution that included Arctic waters.

Table 8-9: Newly Recorded Incidental Taxa Identified in Milne Inlet in 2024

Phylum Class/Order	Family	Taxa	Capture Method	Description	Distribution References	Distribution Category[a]	Relevant Ecoregions on Record[b]	Uncertainty[c]
Brachiopoda								
Rhynchonellata / Rhynchonellida	Hemithirididae	*Hemithiris psittacea*	Incidentals (DNA Specimens)	Morphological ID of specimen archived for DNA analysis. A northern species that is well documented in the Eastern Canadian Arctic.	1, 2, 3, 4, 5, 6, 7, 8, 9	1, 4, 5, 6, 8, 9	2 Surrounding Region	Low
Bryophyta								
Bryopsida / Hypnales	Amblysteigaceae	*Pseudocalliergon brevifolium*	Incidentals	North American Arctic species, well documented in the Eastern Canadian Arctic	2, 18, 19	1, 2, 3, 5, 6, 7, 8, 9	2 Surrounding Region	Low
Mollusca								
Cephalopoda / Sepiida	-	Sepiolina indet.	Incidentals (DNA Specimens)	Morphological ID of specimen archived for DNA analysis. Eggs likely to be from a bobtail squid. Suborder has a global distribution.	1, 2, 3, 5, 10	1, 2, 3, 4, 5, 6, 7, 8, 9	2 Surrounding Region	Moderate
Rhodophyta								
Florideophyceae / Ahnfeltiales	Ahnfeltiaceae	*Ahnfeltia plicata*	Offset Habitat Monitoring	Red algae with a well documented presence in the Eastern Canadian Arctic.	1, 2, 11, 12, 13, 14, 15, 16, 17	1, 2, 4, 5, 8, 9	1 Within Region	Low

Notes: Taxa identified to the lowest practical taxonomic level; *indicates non-unique taxa; indet.= indeterminate (taxa which could not be identified beyond the taxonomic level listed); sp.=species.
[a] Distribution categories indicate the proximity to the Project of the closest georeferenced collection of the taxon, where category 1: Within the Region, 2: Surrounding Region, 3: Arctic, Outside Region, 4: Circumpolar/Circumboreal Distribution, 5: Wider Distribution. Distribution categories are defined in Section 8.3.2.1.1
[b] Ecoregion are delineated in Spalding et al. 2007 and herein refer to 1. Baffin Bay-Davis Strait; 2. Lancaster Sound; 3. High Arctic Archipelago; 4. Northern Labrador; 5. Hudson Complex; 6. West Greenland Shelf; 7. North Greenland Shelf; 8. East Greenland Shelf; 9. Beaufort-Amundson-Viscount Melville-Queen Maud
[c] Uncertainty indicates confidence in the data available for the range on record. Uncertainty categories (Low, Moderate, and High) are described in Section 8.3.2.1.1
Taxa distribution references: 1: WoRMS 2024; 2: GBIF 2024; 3: Miller and Nozères 2024; 4: Goldsmit 2016; 5: Cusson 2018; 6: Chapman and Kostylev 2008; 7: NSC 2006; 8: Goldsmit et al. 2014; 9: Dale and Leontowich 2006; 10: DFO 2019; 11: Cross et al. 1987; 12: Lee 1980; 13: Saunders and McDevit 2013; 14: Mathieson et al. 2010; 15: Lund 1959; 16: Wilce and Dunton 2014; 17: Küpper et al. 2016, 18. BOLD 2025, 19. Tropicus 2025.
All taxa cross-referenced with NIS/AIS resources: Fofonoff et al. 2018, ISSG 2025, Costello et al. 2025, Molnar et al. 2008, Casas-Monroy et al. 2014.

8.4.2 Genetic Identification

Samples collected for DNA analysis in 2024 are in the process of being sorted by Biologica for taxa of interest. Taxa of interest include general fouling, attached, and encrusting taxa such as macroalgae, bryozoans and tunicates where morphological identification may be generally challenging, in addition to Watch List taxa (Appendix 8E-3). Results of morphological identification of the individual specimens collected in 2024 are presented as incidental taxa in Section 8.4.1.5, as well as Appendix 8B-1 and Appendix 8B-2. Benthic infaunal samples preserved for potential molecular analysis have been archived pending the future identification of flagged taxa that may be potentially resolved by molecular analysis. Results of sequencing of 2024 macroalgae specimens is presented in Section 8.4.1.2.

No taxa in 2024 were flagged for further DNA identification. Should this status change, updated taxonomic information will be presented in the 2025 monitoring report and, in the event that a potential NIS/AIS taxon is found in the pending data before the publication of the 2025 report, it will be presented to MEWG.

Samples collected in 2023 were processed and sent to CCDB for sequencing using COI Geller primers. Target specimens included tunicates and bryozoans collected from settlement substrates on the Freight Dock in addition to two annelids that were morphologically identified as *Marenzelleria* sp., collected by benthic grab at station SW-12 near Phillips Creek. CCDB were successful in amplifying annelid and ascidian DNA but failed for bryozoans. Next Generation (NextGen) Sequencing was used to improve sequence recovery for bryozoans; while this method was able to generate sequences for bryozoans, it also generated potential contaminants (Appendix 8B-9).

The two annelid specimens matched sequences for an unidentified species collected in Canada and Norway that was designated a *Spio* sp. (CCDB found matches to specimen GBMND30277-21, collected from Svalbard in 2018 and CCANN317-08, collected from Churchill in 2008; BOLD 2025). However, the phylogenetic tree indicates that the sequences for the Milne Port specimens and the putative *Spio* specimens from Svalbard and Churchill are more closely related to *Marenzelleria* than to *Spio* (Appendix 8B-9). The sequences did not match exactly the sequences on record for *Marenzelleria arctia* or *M. viridis*. Biologica considered it likely that these specimens belong to *Marenzelleria*, a genus already confirmed to occur in Milne Port, with representative taxa on the Project Watch List. Sequences of the Baffinland specimens were sent to Dr. Vasily Radashevsky from the Russian National Scientific Center of Marine Biology in Vladivostok, a global expert in Spionidae with experience in molecular identification of *Marenzelleria* in the Canadian Arctic. Based on genetic distances between the Baffinland specimens and *Marenzelleria* sequences on record, Dr. Radashevsky determined the 2023 specimens were *Marenzelleria wireni*, a species already confirmed to occur in Milne Port (Radashevsky 2025, pers. comm.).

Six tunicate specimens were submitted, with four resulting in readable sequences. These were identified as *Ascidia callosa* (three specimens) and *Boltenia echinata* (one specimen). Both species have been observed previously in Milne Port surveys, including in baseline years.

NextGen Sequencing was able to generate sequences for only five of the twenty-six bryozoan specimens that were submitted following failure in Sanger Sequencing. Of these, one specimen returned two sequences, indicating potential amplification of environmental DNA or contamination of the sample. The generated sequences were compared to publicly available reference sequences however results were not conclusive. No specimens were able to be resolved further than the phylum level.

8.4.3 Independent Verification and Identifications

One species (*Chaetozone anasima*) in 2024 was flagged for further review due to lack of information on its range on record. There were no concerns about NIS/AIS status for this taxon. Macroalgae placed on the Watch List in 2024 were flagged by the independent reviewer and are not being sent for further verification. One taxon from the Watch List was identified again in benthic samples (*Paramphitrite birulai*). This taxon had previously been sent for independent review with a specialist in the taxonomic group and the identification was not able to be resolved. The literature review for this taxon was updated for 2024, and its Watch List status was reviewed.

Updates to specimens flagged for verification from 2022 surveys are provided. A reviewer for *Hesperonoe* could not be identified and the available specimens were determined to be lacking features that would be required for identification (Macdonald 2025, pers. comm.). A bryophyte specimen was sent to Dr. Terry Mcintosh, a consulting bryophyte expert with the UBC Herbarium, Beaty Biodiversity Museum in 2023; results of the independent review remain pending.

Macroalgae specimens collected from Milne Port in previous years were sent to UNB. Results of this independent review are presented in Appendix 8B-5. A review of the macroalgae taxa placed on the Watch List remains pending.

Table 8-10: Record of Results of Independent Review of Taxa Collected in Milne Port

Biologica's Identification	Reviewer	Result of Verification	Description	Reference
Annelida				
Hesperonoe sp.	TBD	TBD	TBD	TBD
Chaetozone anasima	TBD	TBD	TBD	TBD
Bryophyta				
Bryophyta indet.	Dr. Terry Mcintosh, UBC Herbarium, Beaty Biodiversity Museum	TBD	TBD	TBD
Ochrophyta				
cf. *Punctaria latifolia*	Dr. Gary Saunders, UNB	TBD	TBD	TBD
cf. *Stictyosiphon soriferus*	Dr. Gary Saunders, UNB	TBD	TBD	TBD

8.5 Discussion

8.5.1 Limitations

It is not always possible to identify specimens to the species level due to a variety of limitations. Species descriptions used for identification based on morphology are often based on adult stages, and immature specimens may lack the features present in the adult that are required for specific identification (Steinerstauch 2019, pers. comm.). Fragmented samples, or samples damaged during collection, may also be missing identifying features that would be used to determine species. Incomplete species records and descriptions also lead to limitations in species identification (Steinerstauch 2019, pers. comm.).

The level of resolution possible for identifications may be dependent also on the number of individual specimens of the same type that are collected. This is for two general reasons: first, higher incidence of a type of specimen often translates to a higher incidence of specimens with diagnostic characters, and thus improved identification

resolution; and second, the increase in incidence of identifiable taxa allows for more distinctions to be made about like and unlike taxa. For example, with bryozoans, a single incidence of a small colony or fragment observed in a sample is less likely to be identified to genus than it would be in a sample with a high incidence, in which opportunities to compare and contrast morphologies are greater (Macdonald 2022a, pers. comm.).

Availability of publications may further impact descriptions, more recently published works may not be readily available or accepted by the larger taxonomic community, and updates may not be reflected in the identification keys used by the taxonomic labs.

Flora and fauna of the Canadian Arctic are not thoroughly described, and surveys of species in the Canadian Arctic are severely lacking relative to surveys in other Arctic and sub-Arctic regions, particularly those in Northern Europe. Figure 8-5 shows the large gap in the Canadian Arctic where few datasets are represented in ArcOD, the international Arctic Ocean biodiversity database. Even for megabenthos, arguably one of the better sampled components of Arctic Canadian marine biota, 42% of the taxa in Baffin Bay and 59% in the Eastern Archipelago are estimated to remain undocumented, while even the Beaufort Sea (relatively well-studied for the Canadian Arctic) is estimated to have 34% of its benthic megafaunal taxa undocumented (Roy et al. 2015). Surveys in the Canadian Arctic are also frequently limited by methodology, focusing on methods such as benthic grabs and zooplankton tows that exclude larger hard substrates. Encrusting or fouling taxa such as bryozoans and some tunicate species may be underrepresented in the datasets due to these methodological biases. Relatively inconspicuous taxa such as smaller epiphytic algae attached to macroalgae may also be underrepresented

Identification of species by genetic means is often suggested as an alternative to traditional taxonomic methods but requires reliable, accurate reference sequences in an accessible DNA database such as the Barcode of Life Database (BOLD). Currently, there are some barriers slowing the process of populating reference databases. First, obtaining quality DNA sequences reliably can be difficult. Macroalgae, for example, are a diverse taxonomic group, and many taxa require specialized extraction protocols and primer design. The second barrier to progress is that once the sequences are obtained, the rigour of the original identification for reference specimens must be considered, as this can often be misleading due to the limitations of morphological identifications, as discussed above. Therefore, improvement is an iterative process, with understanding of molecular and morphological diversity developing hand in hand (Macdonald 2022a, pers. comm.). Limitations to the identification of species by molecular, genetic methods are discussed in Appendices 8B-6, 8B-8 and 8B-9, and are briefly summarized below.

Molecular methods are considered a valuable tool for identification and may be particularly appropriate for macroalgae due to the ability of macroalgae to change vegetative morphology in different environments (Zuccarello and Paul 2019). However, both false positive and false negative errors can occur with any molecular method of identification and data resulting from the high-throughput NextGen sequencing method in particular are more prone to error and should be used more conservatively than those from Sanger sequencing (Saunders 2025, pers. comm.). False positives are especially likely with small-volume samples, as with little material of the true sample in the tube to compete for the reagents, even the smallest amount of contaminant is likely to be amplified. The NextGen data from UNB were provided at two levels of confidence. Records with ‘T4’ in the accession number indicates a higher likelihood of the species being present than those ending in ‘T1’ which have a much lower threshold of recovery and may represent potential false positives (Saunders 2025, pers. comm.). An additional caveat was provided with results of analyses with the LSU D2 marker (Saunders 2025, pers. comm.). This marker is conservative and cannot discriminate among closely related species. Thus a 100% match could be correct or belong to a different species that is closely related to the match but not yet in the genetic database.

Secondary lineage-specific markers are used in part to augment this shortcoming and improve the resolution that can be provided in these metabarcoding lists.

DNA sequencing of invertebrate specimens, conducted on polychaetes, bryozoans and tunicates collected in 2023, shares similar limitations to those described for macroalgae. The quality of the results varied according to the taxon studied. Sanger sequencing using COI Geller primers successfully amplified the DNA from polychaetes and most tunicates, however limitations in the available DNA library (in particular, the scarcity or lack of morphological taxonomic identifications linked to DNA sequences, and limited number of reference sequences) reduced confidence in the results. Further, the Sanger sequencing method failed to recover any bryozoan sequences and NextGen sequencing was attempted to try to improve bryozoan results. This led to some success with sequences recovered for five of the 26 specimens, but no matches in the DNA library were close enough to identify the taxa beyond the phylum level. As with the macroalgae, issues encountered in extracting sequences from invertebrate specimens could be attributed to multiple factors, potentially including a need for additional refinement of DNA extraction protocols and development of more effective primers. The difficulty of sequencing bryozoans was notable, and while universal primers have been successfully used for bryozoans in some studies, their use may also result in binding to multiple locations within the genome which creates non-specific products (Porter et al, 2001). Additional issues with bryozoan sequencing include the potential for retention of DNA from other organisms such as algae and bacteria on the colony surface (Porter et al. 2001) and the occurrence of multiple haplotypes within a colony (Lee et al. 2011). Each of these scenarios could potentially lead to the amplification and subsequent joining of DNA sequences from different sources, which may be interpreted as novel organisms. Intraspecific variation within bryozoans is very high (Gómez et al. 2007, Lee et al. 2011) which can make it difficult to interpret results based on DNA barcoding, particularly in the present case where the reference library of Arctic species is limited.

Ranges on record are another constraint to determining the status of detected species as an NIS as distribution ranges are not completely described for all taxa. In particular, recently described or uncommon taxa may have a limited range description based on a few sites where specimens have been found, with a broader range inferred based on biological characteristics and tolerances. Additionally, with some taxa it can be difficult to determine if a species is originally from the area in which it is found, or if it was introduced from another location. In cases where the original native range cannot be conclusively determined, a species is considered cryptogenic.

These limitations in Arctic sampling lower the confidence in the ranges on record, particularly for less common or recently described species that may be cryptogenic to a broader area, but which, due to their rarity and the relative survey effort, have not yet been described outside the range on record.

Difficulties in determining the historic range of a species may also be related to changes or inconsistencies in species descriptions. The range on record may be linked to a previous name or description and databases are not always updated as new descriptions are accepted. Alternatively, multiple conflicting descriptions or names for the same taxa may further confound records. New species descriptions occur when an update to the taxonomic record is accepted. This may be due to a variety of reasons including acceptance of a more senior description, DNA analysis combining (two species merging under one species name) or separating species descriptions (one species being divided into two distinct species or subspecies), or reclassification due to the identification of features that match a different taxonomic group (such as reclassification to a different genus). These limitations may be more pronounced in certain taxonomic groups such as bryozoans and marine algae (i.e., macroflora) where there are fewer experts focused on refining the taxonomy or more variation in reporting relative to other more well-defined groups.

8.5.2 Taxonomic Identification

8.5.2.1 Benthic Infauna

A total of 157 taxa were identified in benthic samples in Milne Inlet, including one taxon that was a new species record for the Project, meaning it had not been observed in previous surveys in Milne Inlet. Watch List taxa collected in benthic samples are discussed in Section 8.5.4.

- *Chaetozone anasima* is a relatively recently described species with no defined range on record. The range is tentatively described as from the Northeastern United States, based on collections from two locations (Massachusetts and the Gulf of Maine) and likely does not reflect the complete range (Doner and Blake 2006, Blake 2022). *Chaetozone anasima* is morphologically similar to *C. setosa* and *C. curvata*, and collections in other locations may be misidentified as either of these species (Doner and Blake 2006, Blake 2022).

  Specimens identified as *Chaetozone* sp. and as part of the *Chaetozone setosa* complex have been identified in Milne Port since baseline surveys. This indicates that specimens similar to, but not necessarily exactly matching the description of *C. setosa* have been present in Milne Port prior to project operations. The specimens collected in 2024 and identified as *Chaetozone anasima* had distinct features that differentiated them from the *Chaetozone setosa* complex but could be a refining of the *Chaetozone* sp. result, rather than a new identification for Milne Port. Previous collections may not have been identified confidently to species due to the rarity of *C. anasima* records (Macdonald 2025, pers. comm.). *Chaetozone anasima, C. curvata,* and *C. setosa* are not listed in available NIS/AIS databases.

  Due to the lack of a range description that includes the North Atlantic or Eastern Canadian Arctic, *Chaetozone anasima* has been precautionarily flagged for independent verification and is placed on the Watch List as a “Low Risk” taxon.

  - ***Chaetozone anasima* is designated Low Risk and will be placed on the Watch List.**

8.5.2.2 Macroflora and Benthic Epifauna

Dive surveys of the permanent quadrats, performed to assess for presence of macroflora and epifauna species, included collection of algae and invertebrate specimens for taxonomic assessment. Dive surveys also including opportunistic collection of macroflora. Among the 108 distinct macroflora and epifauna taxa recorded during quadrat surveys and opportunistic algal collections in Milne Inlet in 2024, the following were new records for Milne Inlet:

- The striped shrimp, *Pandalus montagui* is a commercially targeted species in Eastern Canada in the Labrador Sea. Recent assessments by DFO indicates northern stocks of this species are considered to be healthy (Le Corre et al. 2024). Records included Baffin Bay, Northern Labrador, and the Hudson Complex (WoRMS 2025, GBIF 2025).

  - ***Pandalus montagui* is not considered a taxon of concern for Milne Port.**

- *Acrosiphonia* is a genus of filamentous algae that often form mossy structures. This genus requires taxonomic revision and genetic work on Canadian collections indicates there are multiple genetic species that are not yet described. In 2024, specimens collected in Milne Port were morphologically identified as *Acrosiphonia* sp. 3GWS and *Acrosiphonia* sp. 8GWS. These identifications were confirmed by molecular examination and results also indicated the presence of *Acrosiphonia* sp. 6GWS. The original collections of the genetic species

designated *Acrosiphonia* sp. 3GWS and *Acrosiphonia* sp. 6GWS were collected in Churchill and the North Atlantic (Saunders and McDevit 2013, NLM 2025, Bringloe 2018, BOLD 2025) and *Acrosiphonia* sp. 8GWS specimens were collected in Baffin Bay, Churchill and the North Atlantic (Bringloe 2018, BOLD 2025). Collections of these genetic species in the Canadian Arctic predate Project operations.

- ***Acrosiphonia* sp. 3GWS, *Acrosiphonia* sp. 6GWS, and *Acrosiphonia* sp. 8GWS are not considered taxa of concern for Milne Port.**

- In general, *Chaetomorpha* species may be hard to distinguish morphologically and may be difficult to resolve genetically. Previous efforts to sequence specimens from Churchill and Milne Port failed to generate barcode data or readable sequences (Saunders and McDevit 2013, Golder 2022a). In 2024, sequences were able to be generated for several specimens that resolved to *Chaetomorpha*, including two new observations for Milne Port (*Chaetomorpha brachygona* and *Chaetomorpha* sp. 3GWS). *Chaetomorpha brachygona* is a filamentous green algae with a broad global distribution that includes the North Pacific and North Atlantic, as well as the Subantarctic Islands (WoRMS 2025, GBIF 2025). However, records in the Arctic are currently limited to the North Pacific around Alaska. Due to a lack of scale provided in illustrations in the original description of this species, this species was misidentified as *Chaetomorpha capillare* and *Chaetomorpha cannabina* in more northern latitudes (Blair 1983) and records of those species may actually represent *Chaetomorpha brachygona*. Records of these other two species extend the potential range to the North Atlantic and Arctic waters in Western Greenland (GBIF 2025). This potential broader range is supported by a natural range that extends to nearby waters with no barriers preventing natural expansion, as well as indications of tolerance of colder waters. Despite the current lack of Arctic records, Dr. Saunders considered it possible this was a natural occurrence (Appendix 8B-8).

  Chaetomorpha sp. 3GWS is an undescribed taxon initially sequenced from samples collected in Maine. No further information is available for this taxon. Specimens in collected in 2024 were morphologically similar to previous unidentified specimens collected in Milne Inlet (Appendix 8B-8). Due to the lack of a range description that includes the North Atlantic or Eastern Canadian Arctic, *Chaetomorpha* sp. 3GWS has been precautionarily flagged for further review and is placed on the Watch List as a “Low Risk” taxon.

  - ***Chaetomorpha brachygona* is not considered a taxon of concern for Milne Port.**
  - ***Chaetomorpha* sp. 3GWS is designated Low Risk and will be placed on the Watch List.**

- *Rhizoclonium riparium* is a filamentous and mat-forming species of green algae with a broad global distribution (WoRMS 2025, GBIF 2025). Records in the Eastern Canadian Arctic prior to Project operations include collections at Ragged Island (Küpper et al. 2016). *Rhizoclonium riparium* was tentatively identified in Milne Port in 2021, however a positive match could not be confirmed based on the features of the specimen at the time (Golder 2022). *Rhizoclonium riparium* is listed on an AIS database as alien to Japan and Mediterranean waters (Costello et al. 2025), however this species has been confirmed to occur in the Project area prior to Project operations and therefore is not considered a taxon of concern for Milne Port.

  - ***Rhizoclonium riparium* is not considered a taxon of concern for Milne Port.**

- *Ulothrix* is a genus of filamentous green algae. This genus requires taxonomic revision, for example, the species *Ulothrix flacca* may represent a genetic group or species complex (Saunders and McDevit 2013). Collections of this morphospecies indicate a broad range that includes the Eastern Canadian Arctic (WoRMS 2025, GBIF 2025). Collections in the Canadian Arctic include observations under the unaccepted name

Ulothrix pseudoflacca (Ellis and Wilce 1961). In 2024, molecular examination of macroalgae specimens confirmed the identification of *Ulothrix flacca* and also identified *Ulothrix subflaccida. U. subflaccida* also has a broad range that includes the Eastern Canadian Arctic (GBIF 2025) with records predating Project operations.

- ***Ulothrix flacca* and *Ulothrix subflaccida* are not considered taxa of concern for Milne Port.**

- *Ulothrix* is a genus of filamentous green algae that requires taxonomic revision. There are indications the described species may represent more than one genetic species (Saunders and McDevit 2013). Specimens collected in 2024 in Milne Port were morphologically and genetically in the genus *Ulothrix* but were not a match to any described species or sequences on record. These specimens were given the designation *Ulothrix* sp. 1Nunavut to indicate they represent a unique and currently undescribed species. Due to the lack of collections outside of the Project area and the limited descriptions of Canadian Arctic flora (see Section 8.5.1), it is considered likely that this genetic species naturally occurs in the Eastern Canadian Arctic and may be endemic to the region.

  - ***Ulothrix* sp. 1Nunavut is not considered a taxon of concern for Milne Port.**

- *Urospora penicilliformis* is a species requiring genetic work to clarify its range on record due to morphological similarities between various species (Suanders 2023). Collection records of this taxa, including under the former name *Codiolum gregarium* indicate the natural range likely includes the Eastern Canadian Arctic (GBIF 2025, Lee 1980, Maitheson et al. 2010).

  - ***Urospora pencilliformis* is not considered a taxon of concern for Milne Port.**

- *Ulvaria splendens* is a somewhat cryptic species, that may get misidentified as *Ulva* species (Saunders 2023). It has a relatively broad northern distribution with records in the Eastern Canadian Arctic and Western Greenland (GBIF 2025). *Ulvaria splendens* is listed on an AIS database, however no details are provided on the location of introduction (AquaNIS 2015). As this species has been confirmed to occur in the Project area prior to Project operations it is not considered a taxon of concern for Milne Port.

  - ***Ulvaria splendens* is not considered a taxon of concern for Milne Port.**

- *Berkeleya* is a genus of tube dwelling diatoms that requires taxonomic revision. Currently there are only two accepted species within the genus, with at least seven more species considered uncertain or unassessed (WoRMS 2025). Where range information exists for the uncertain and unassessed species, the range on record is limited to the location of collection and does not indicate the probable extent. Records indicate there is at least one species of *Berkeleya* in the Canadian Arctic, including observations at Cape Hatt (WoRMS 2025, GBIF 2025, Küpper et al. 2016, Lobban 1984).

  - ***Berkeleya* sp. is not considered a taxon of concern for Milne Port.**

- *Parlibellus* is a genus of tube dwelling diatoms described in 1988 following review of the genus *Navicula* (Cox 1988). The accepted species within the genus vary between sources (WoRMS 2025, Guiry and Guiry 2025). Records are limited for this genus, however these include observations of unidentified species in the Eastern Canadian Arctic prior to Project operations (Conlan and Kvitek 2005).

  - ***Parlibellus* sp. is not considered a taxon of concern for Milne Port.**

- *Desmarestia ligulata* is a largely temperate species, with Arctic records limited to southern Alaska and Scandinavia (WoRMS 2025, GBIF 2025). This species is listed as introduced to China, via either shipping vectors or accidentally through aquaculture of *Undaria pinnatifida* (Xiong et al. 2017, Lutaenko et al. 2013). Due to the lack of a range description that includes the North Atlantic or Eastern Canadian Arctic, as well as being listed on AIS databases (AquaNIS 2015, Costello et al. 2025), *Desmarestia ligulata* has been precautionarily flagged for further review and is placed on the Watch List as a “Low Risk” taxon.
    - ***Desmarestia ligulata* is designated Low Risk and will be placed on the Watch List.**
- Arctic records of *Desmarestia* are uncertain with molecular work indicating currently described morphospecies may resolve to multiple genetic species (Saunders and McDevitt 2013). The genus is confirmed to occur in the Eastern Canadian Arctic, and its presence in Milne Port is established within the literature. Specimens collected previously in Milne Port and examined by Dr. Saunders included specimens that were a morphological match for an undescribed *Desmarestia* species that is known to occur in the region and had been previously sequenced from collections at Ragged Island (Saunders 2024, pers. comm., Küpper et al. 2016, Appendix 8B-5). Specimens collected in 2024 were a morphological and molecular match for this undescribed *Desmarestia* and were given the name *Desmarestia* sp. 1Arctic.
    - ***Desmarestia* sp. 1Arctic is not considered a taxon of concern for Milne Port.**
- In 2004, Küpper et al. (2016) isolated macroalgal DNA sequences from substrata collected around Ragged Island. Among isolates from these substratum collections were several unidentified species from the *Hincksia* cluster. Specimens collected in 2024 included matches for two of these sequences (Acinetosporaceae gen. sp. 1AP-2016 and Acinetosporaceae gen. sp. 3AP-2016). Acinetosporaceae gen sp. 3AP-2016 was previously confirmed to occur in Milne Port (see Appendix 8B-5). Acinetosporaceae gen sp. 1AP-2016 has also been collected in Northern Labrador (NLM 2025).
    - **Acinetosporaceae gen sp. 1AP-2016 is not considered a taxon of concern for Milne Port.**
- The Antarctic endophyte *Ascoseirophila violodora* is currently the only described species in its genus. Molecular results indicate that the specimens collected in Milne Port in 2024 are a separate, but closely related species. Therefore, the specimens were designated *Ascoseirophila* sp. 1*violodora*. It is considered likely that this genetic species naturally occurs in the Eastern Canadian Arctic and may be endemic to the region.
    - ***Ascoseirophila* sp. 1*violodora* is not considered a taxon of concern for Milne Port.**
- *Chordaria* is a genus of filamentous brown algae with a broad distribution. Molecular examination of 2024 Milne Port specimens identified two species. *Chordaria chordaeformis* is relatively newly described with limited georeferenced records. Records of this species may be confused with *C. flagelliformis or C. flagelliformis* f. *chordaeformis* due to morphological similarities in more northern latitudes (Sanders 2023). *Chordaria flagelliformis* is has a broader range and is present throughout the Canadian Arctic (WoRMS 2025, GBIF 2025, Lee 1980). Records in the Eastern Canadian Arctic for both species are genetically verified and were collected prior to Project operations (Saunders and McDevit 2013, Bringloe 2018).
    - ***Chordaria chordaeformis* and *Chordaria flagelliformis* are not considered taxa of concern for Milne Port.**

- *Elachista* sp. 1Arctic is an epiphytic alga sequenced from specimens collected in Churchill and James Bay. Based on morphology, this taxon may be misidentified as *Leptonematella fasciculata*, which is a species recorded in the Eastern Canadian Arctic (GBIF 2025, Saunders 2023). Records of *L. fasciculata* may include this undescribed *Elachista* species.
    - ***Elachista* sp. 1Arctic is not considered a taxon of concern for Milne Port.**
- The endophytic *Litosiphon laminariae* is currently the only accepted species in its genus. Specimens from Milne Port were morphologically similar, yet distinct from this species, indicating that the specimens collected in Milne Port in 2024 are a separate, but closely related species. Therefore, the specimens were designated *Litosiphon* sp. 1Arctic. It is considered likely that this genetic species naturally occurs in the Eastern Canadian Arctic and may be endemic to the region.
    - ***Litosiphon* sp. 1Arctic is not considered a taxon of concern for Milne Port.**
- *Microspongium* sp. 4GWS is an undescribed epiphytic alga initially sequenced from samples collected in British Columbia in 2006 and Alaska in 2017 (NLM 2025, BOLD 2025). No further information is available for this taxon. Based on a broad range implied by the two collections, including a record in the North American Arctic, as well as the cryptic nature of epiphytic algae, it is considered probable that this taxon would have a range that could include the Eastern Canadian Arctic.
    - ***Microspongium* sp. 4GWS is not considered a taxon of concern for Milne Port.**
- *Polycerea borealis* is a cryptic filamentous species originally described from the Bering Sea. Later collections in the Canadian Arctic and Northern Labrador indicate the range is much broader (BOLD 2025, Saunders 2023, Saunders 2024).
    - ***Polycerea borealis* is not considered a taxon of concern for Milne Port.**
- *Punctaria* is a genus with multiple species with documented ranges that include the Eastern Canadian Arctic (WoRMS 2025, GBIF 2025). Sequences collected in 2024 were not resolved to species. Canadian Arctic observations of species within this genus include *P. glacialis*, which was observed in Steensby Inlet during baseline surveys and presumed to be present in Milne Port (SEM 2010), as well as *P. tenuissima*, observed at Ragged Island (Küpper et al. 2016). There are indications *P. glacialis* in the Eastern Canadian Arctic may represent a currently undescribed species, designated *Punctaria* sp. 2GWS (Saunders and McDevit 2013, Wilce and Bradley 2019). *Punctaria latifolia* and *P. tenuissima* are listed on AIS databases, *P. latifolia* was placed on the Project Watchlist in 2022 as a precaution, although there are indications the range could include the Eastern Canadian Arctic (WoRMS 2025, GBIF 2025, Guiry and Guiry 2025). *Punctaria tenuissima* has been recorded in the Project area prior to Project operations and is not considered a taxon of concern (Küpper et al. 2016).
    - ***Punctaria* sp. is not considered a taxon of concern for Milne Port.**
- *Saundersella doloresiae* was described in 2024 based on specimens collected from Northern Labrador where it was epiphytic on *Chordaria chordaeformis*. Due to the recent description, there is little information available for this species. However, there are indications that some records of *Saundersella simplex* outside of the Pacific (where it appears to be an obligate epiphyte to *Analipus japonicus*) may actually be *Saundersella doloresiae,* which could extend the range to Greenland (where *S. simplex* was reported as epiphytic on *Chordaria flagelliformis*) (Saunders 2023, 2024).

- **_Saundersella doloresiae_ is not considered a taxon of concern for Milne Port.**

- *Ectocarpus* is a genus with a well documented presence in the Eastern Canadian Arctic (WoRMS 2025, GBIF 2025). Genetic work reveals that significant taxonomic revision required indicated by DNA resolving to more species than are currently described (Saunders 2023). Specimens collected in Milne Port in 2024 were matches to an unknown species of *Ectocarpus* found in the Bay of Fundy and Greenland (Appendix 8B-8), as well as to *Ectocarpus* sp. 1siliculosus, which was found in Northern Labrador and Hudson Bay (GBIF 2025, BOLD 2025).
  - **_Ectocarpus_ sp. and _Ectocarpus_ sp. 1siliculosis are not considered taxa of concern for Milne Port.**
- A specimen collected in 2024 matched sequences for either *Petalonia arctica* or *Petalonia fascia. Petalonia fascia* is a species with a well documented presence in the Eastern Canadian Arctic (WoRMS 2025, GBIF 2025), however genetic work indicates that some of these records may instead be the morphologically similar *Petalonia arctica* (Saunders 2024), which was described in 2024. Both species are accepted as occurring in the Eastern Canadian Arctic, with *P. arctica* being more limited to cold waters (Saunders 2023, 2024).
  - **_Petalonia arctica_ and _Petalonia fascia_ are not considered taxa of concern for Milne Port.**
- *Planosiphon filiformis* was previously accepted as *Petalonia filiformis* and records in the Eastern Canadian Arctic are mostly under the former species name (GBIF 2025, Saunders and McDevit 2013). This species has been recorded in the Eastern Canadian Arctic under both species designations prior to Project operations. Genetic work at the type locality indicates there may be two genetic species under this morphospecies, one of which is present in the NW Atlantic (Saunders 2024).
  - **_Planosiphon filiformis_ is not considered a taxon of concern in Milne Port.**
- *Scytosiphon shibazakiorum* is a recently described species, which was previously misidentified alternatively as *Scytosiphon canaliculatus, Hapterophycus canaliculatus,* and *Melanosiphon intestinalis* (McDevit and Saunders 2017, Saunders 2023, Hoshino et al. 2021). *S. shibazakiorum* is considered to have a broad distribution that includes Canadian waters, and collections include specimens from Churchill (McDevit and Saunders 2017, Hoshino et al. 2021). This identification was confirmed by molecular analysis that also revealed sequences for *Scytosiphon* sp. 1crust, an unidentified species with one previous collection from Churchill (BOLD 2025, NLM 2025, Bringloe 2018).
  - **_Scytosiphon shibazakiorum_ and _Scytosiphon_ sp. 1crust are not considered taxa of concern for Milne Port.**
- *Ralfsia* is a genus of crustose brown algae with a broad global distribution. Canadian Arctic records include at least three accepted species, and there are records of a potentially undescribed species in Churchill (WoRMS 2025, GBIF 2025, Lee 1980, Saunders and McDevit 2013). Specimens from Milne Port did not match any sequences on record for any species in this genus, indicating that the specimens collected in Milne Port in 2024 were likely a yet undescribed species. Therefore, the specimens were designated *Ralfsia* sp. 1Arctic. It is considered likely that this genetic species naturally occurs in the Eastern Canadian Arctic and may be endemic to the region.
  - **_Ralfsia_ sp. and _Ralfsia_ sp. 1Arctic are not considered taxa of concern for Milne Port.**

- *Halosiphon tomentosus* is generally accepted as a species that has a range that extends into the Eastern Canadian Arctic (Saunders and McDevit 2013). However, genetic work revealed the Canadian Arctic collections were genetically distinct from Atlantic ones, indicating this was a species group of at least two distinct species (Saunders and McDevit 2013). Specimens collected in 2024 were a match to the genetically distinct Arctic species collected in Churchill and designated *Halosiphon* sp. 2tomentosus (Saunders and McDevit 2013, BOLD 2025, Bringloe 2018).
    - ***Halosiphon* sp. 2tomentosus is not a taxon of concern for Milne Port.**
- *Saccorhiza dermatodea* is a species of bladed brown algae with a North Atlantic and Arctic distribution. This species is well documented through out the Canadian Arctic and is confirmed as present in the Eastern Canadian Arctic prior to Project Operations (WoRMS 2025, GBIF 2025, Lee 1980).
    - ***Saccorhiza dermatodea* is not considered a taxon of concern for Milne Port.**
- *Haplospora globosa* is a northern species primarily found in the Eastern Canadian Arctic and North Atlantic (WoRMS 2025, GBIF 2025). Records in the Eastern Canadian Arctic include observations near Pond Inlet and at Ragged Island (Lee 1980, Küpper et al. 2016).
    - ***Haplospora globosa* is not considered a taxon of concern for Milne Port.**
- Specimens collected in 2024 were identified as possibly one or both of Tilopteridalean sp. 2GWS and Tilopteridalean 3GWS, as the method used would not distinguish between the two genetic groups. Both Tilopteridalean species are considered to be Arctic, with collections of T. sp. 2GWS from Baffin Island and North Alaska, and T. sp. 3GWS from North and West Alaska.
    - **Tilopteridalean sp. 2GWS and Tilopteridalean sp. 3GWS are not considered taxa of concern for Milne Port.**
- Specimen collected in 2024 were a genetic match to sequences on record from the UNB that were thought to belong to *Grania efflorescens* (Appendix 8B-8). *Grania efflorescens* is a northern species with a recorded range that includes the Eastern Canadian Arctic under its current accepted name as well as the former name *Audouinella efflorescens*, including genetically verified specimens (Saunders 2024, Guiry and Guiry 2024, Lee 1980).
    - ***Grania efflorescens* is not considered a taxon of concern for Milne Port.**
- *Antithamnion sparsum* is an Asian species of diminutive filamentous red algae that is considered alien to Nova Scotia (Fofonoff et al. 2018, Costello et al. 2025, Brooks and Krumhansl 2023). In 2021, specimens were collected in Nova Scotia that were a molecular match to sequences assumed to belong to *A. sparsum,* indicating a potential range expansion for this taxon (Brooks and Krumhansl 2023). The specimens were morphologically distinct from *A. cruciatum*, which naturally occurs in the area and is found in the Eastern Canadian Arctic (Lee 1980). *Antithamnion sparsum* is not known to have a range that includes the Arctic. In the 2024 Milne Port NIS/AIS Monitoring Program, sequences were generated from scrapings of settlement substrates and rocks rather than whole specimens, therefore morphological confirmation could not be made. UNB considered these results as a potential false positive (see Section 8.5.1). *Antithamnion* cf. *sparsum* has been precautionarily flagged for further review and is placed on the Watch List as a “Low Risk” taxon.
    - ***Antithamnion* cf. *sparsum* is designated Low Risk and will be placed on the Watch List.**

- *Polysiphonia kapraunii* is a recently described species from North Carolina (WoRMS 2025). Records indicate this species is limited to warmer water and may not naturally occur in the Arctic (Guiry and Guiry 2025). Genetic work reveals some uncertainty in the taxonomic designation, indicating that it forms a clade with at least one closely related species with a broader range, and may not be its own species (Diaz-Tapia et al.2018). While the identification in 2024 was not considered a false positive, the result was flagged as uncertain due to the method being limited in distinguishing between closely related species (Appendix 8B-8). *Polysiphonia kapraunii* has been precautionarily flagged for further review and is placed on the Watch List as a ”Low Risk” taxon.
    - ***Polysiphonia kapraunii* is designated Low Risk and will be placed on the Watch List.**
- *Rhodomela sibirica* is a species of red algae with an Arctic distribution. This species is well documented through out the Canadian Arctic and is confirmed as present in the Eastern Canadian Arctic prior to Project operations (GBIF 2025, Bringloe 2018). *R. sibirica* was identified in baseline surveys in Steensby Inlet and was presumed to be among the red algae observed in ROV surveys at Milne Port (SEM 2010).
    - ***Rhodomela sibirica* is not considered a taxon of concern for Milne Port.**
- *Titanoderma pustulatum* is a crustose coralline species with a broad global range (WoRMS 2025, GBIF 2025, Guiry and Guiry 2025). Although this species has not been recorded in the Canadian Arctic, records in the North Atlantic and the European Arctic indicate that the natural range could include the Project Area. The identification within Milne Port is not fully resolved as UNB suspected the result was a false positive (Appendix 8B-8).
    - ***Titanoderma pustulatum* is not considered a taxon of concern for Milne Port.**
- *Boreolithothamnion* is recently described following molecular examinations of the genus *Lithothamnion* (Gabrielson et al 2023). While the genus is currently accepted, *B. lemoineae* is currently unresolved and not fully accepted within the available literature (Guiry and Guiry 2025, WoRMS 2025). Specimens collected in Milne Port in 2024 are a genetic match for specimens designated *B. lemoineae* that were collected from Baffin Island and Northern Labrador prior to project operations (BOLD 2025). Despite the uncertainty in the taxonomy, it is considered probable the specimens collected in 2024 represent a species that was present in the Eastern Canadian Arctic prior to Project operations.
    - ***Boreolithothamnion lemoineae* is not considered a taxon of concern for Milne Port.**
- The taxonomy for *Leptophytum* is currently not fully resolved (WoRMS 2025, Guiry and Guiry 2025). Records of the species *L. foecundum* and *L. laeve* under the current and former names indicates broad ranges that include the Canadian Arctic and the North Atlantic (Lee 1980, Mathieson et al. 2010, Küpper et al. 2016). Despite the uncertainty in the taxonomy, it is considered probable the specimens collected in 2024 represent species that were present in the Eastern Canadian Arctic prior to Project operations.
    - ***Leptophytum foecundum* and *Leptophytum laeve* are not considered taxa of concern for Milne Port.**

8.5.2.3 Settlement Substrates

Previous experience with settlement substrates in Milne Port indicated that deployment duration is a large factor in the ability to detect organisms (WSP 2024). In most years, a single year of deployment resulted in few successful identifications of organisms using visual taxonomic methods. The program was adjusted in 2020 to focus on longer term deployments, with plates and baskets soaking for three years prior to recovery. Plates and baskets submitted for analysis in 2024 were deployed for a minimum of three years. Annually deployed substrates, along with certain multi-year substrates were scraped and preserved in ethanol to be archived for potential future molecular analysis, if required (see Table 8-1 for details).

A total of 107 invertebrate taxa were identified on settlement substrates. None of these taxa were considered new records, meaning each taxon, or representative taxa had been observed in previous surveys in Milne Inlet. Macroalgae identifications from settlement substrates are discussed along with macroalgal collections from quadrat surveys in Section 8.5.2.2.

8.5.2.4 Zooplankton

A total of 60 zooplankton taxa were observed in 2024 samples. The 60 taxa had been observed in previous surveys in Milne Port and were known to have natural ranges that include the Project area. No taxa from the Program Watch List were detected and no taxa were flagged for review.

8.5.2.5 Fish and Incidentals

The taxa observed during marine surveys at Milne Port are considered under the NIS/AIS program. This includes fish captures, non-targeted captures during fishing efforts, taxa found in stomach contents, specimens collected for DNA archive, and taxa observed during monitoring of offset habitat in Milne Port. Of the 91 taxa collected, captured, or observed incidentally, four taxa were newly recorded in MEEMP surveys (i.e., not previously reported in the Milne Inlet Taxonomic Inventory).

The taxa observed incidentally in MEEMP and NIS/AIS surveys were cross-checked against marine invasive species databases. None of the taxa observed were identified as globally recognized invasive species (Molnar et al. 2008) or as domestically recognized invasive species according to the National Risk Assessment for Introduction of Aquatic Nonindigenous Species to Canada by Ballast Water (Casas-Monroy et al. 2014). In addition to these databases, the distribution and habitat preferences of each taxon was researched independently in the literature for signs of NIS status in the Arctic region. For specimens that could not be resolved to species, review efforts focused on confirming that the higher-level classification (e.g., genus) had at least one species with a distribution that included Arctic waters.

The following were new records:

- *Hemithiris psittacea*, was a brachiopod collected during surveys of the reference site during offset habitat monitoring. The specimen was preserved in ethanol for potential molecular identification, however the identification was made morphologically and the specimen was archived. *H. psittacea* is a species with a well-documented presence in the Eastern Canadian Arctic (WoRMS 2025; GBIF 2025).
    - ***Hemithiris psittacea* is not considered a taxon of concern for Milne Port.**

- *Pseudocalliergon brevifolium,* also accepted as *Drepanocladus brevifolius* is a North American Arctic species of Bryophyte, with a well document distribution in the Eastern Canadian Arctic (GBIF 2025, Tropicos 2025). Specimens observed in 2024 were morphologically similar to the unidentified species of bryophyte identified in 2022 (see Section 8.5.4.6).
  - ***Pseudocalliergon brevifolium* is not considered a taxon of concern for Milne Port.**
- Sepiolina is a superorder that contains the bobtail squids. Eggs identified as belonging to an unknown species of bobtail squid were collected off a cluster of settlement plates at the Freight Dock. Sepiolina is a global subrorder that contains multiple species with ranges that include the Eastern Canadian Arctic (WoRMS 2025; GBIF 2025). No species within the suborder Sepiolina are recorded in available NIS/AIS databases.
  - **Sepiolina indet. is not considered a taxon of concern for Milne Port.**
- *Ahnfeltia plicata* is a species of red algae with a well documented presence in the Canadian Arctic (WoRMS 2025, GBIF 2025). However, older records of this species may be unreliable due to morphological similarities between *A. plicata* and *A. borealis*, which is recently described and also has an Arctic range (Saunders and McDevit 2013). *A. plicata* records in the Eastern Canadian Arctic (which may potentially represent misidentified *A. borealis*) include Lancaster Sound and Eclipse Sound, including Pond Inlet and Ragged Island (Lee 1980, Cross et al. 1987, Küpper et al. 2016).
  - ***Ahnfeltia plicata* is not considered a taxon of concern for Milne Port.**

8.5.3 Genetic Identification

Invertebrate specimens collected in 2023 were processed and sent to CCDB for sequencing using COI Geller primers. Target specimens included tunicates and bryozoans in addition to two annelids identified by morphological methods as potential *Marenzelleria* sp. CCDB were successful in amplifying annelid and ascidian DNA but failed for bryozoans. NextGen Sequencing was used to improve sequence recovery for bryozoans, while this method was able to generate sequences for bryozoans, it also generated potential contaminants (Appendix 8B-9).

Genetic sequencing of the two annelid specimens was not able to confirm the tentative morphological identification of *Marenzelleria* sp. Results suggested they were in the genus *Spio,* based on matches to sequences from Canada (Churchill) and Norway (Svalbard) that were described as unidentified species in this genus. *Spio* species have been observed in Milne Port since baseline surveys. However, the phylogenetic tree indicated that the specimens are more closely related to *Marenzelleria* than to *Spio*, and Biologica speculated this may be a result of a misidentified reference specimen in the CCDB database (Appendix 8B-9). The sequences did not match the sequences on record for *Marenzelleria arctia*, a species that has been morphologically identified in Milne Port, or *M. viridis*, which is on the Program Watch List (Figure 1 in Appendix 8B-9). The Milne Port sequences were closely matched to specimen GBMND30277-21, which was collected from Svalbard in 2018 and CCANN317-08, which was collected from Churchill in 2008 (BOLD 2025). The close genetic match to specimens collected in the eastern Canadian Arctic/subarctic prior to Project operations suggest that these Milne Port specimens would not represent a taxon of concern for Milne Port regardless of a confirmed identification of *Spio* sp. or *Marenzelleria* sp. The sequences of the Baffinland specimens were sent to Dr. Radashevsky from the Russian National Scientific Center of Marine Biology in Vladivostok, who matched the 2023 sequences to *Marenzelleria wireni*, a species already confirmed by molecular means to occur in Milne Port (Radashevsky 2025,

pers. comm.). Dr. Radashevsky did not review the sequences from Svalbard and Norway, however these results suggest *M. wireni* may have been present in the Churchill prior to Project operations.

Tunicate specimens resulted in the identification of two species: *Ascidia callosa* (three specimens) and *Boltenia echinata* (one specimen). *Ascidia callosa and Boltenia echinata* have been documented in the Eastern Canadian Arctic (WoRMS 2025, GBIF 2025). *Ascidia callosa* was identified based on a match to a single collection from Alaska resulting in a relatively low confidence in the introduction. Confidence in the identification of *B. echinata* was higher, based on matches with fourteen specimens, including specimens from the Canadian Arctic (Appendix 8B-9). However, phylogenetic results also indicated that *B. echinata* may represent a species complex, with a distinct genetic group found in Newfoundland. *Ascidia callosa* and *Boltenia echinata* have been observed previously in Milne Port surveys, including in baseline years (SEM 2016) and are not considered taxa of concern for Milne Port.

While NextGen Sequencing was able to generate sequences for five of the bryozoan specimens, results were inconclusive, reflecting limitations in the methods and with DNA identification for Arctic bryozoans (see discussion in Section 8.5.1, and Appendix 8B-9). Of the five bryozoans, one specimen returned two sequences, indicating potential amplification of environmental DNA or contamination of the sample. The generated sequences were compared to publicly available reference sequences, which yielded matches below the required 97% threshold to be considered a matched identification. The closest matches were 80.27% similarity to sequences for *Bugula migottoi*. As a result, no specimens were able to be resolved further than the phylum level and the comparative taxa are not considered potential identifications for Milne Port.

8.5.4 Independent Verifications and Updates to Program Watch List

Results of independent verification through morphological assessment are pending and will be updated as reviews become available. Updated results will be presented in revisions to the 2024 report and, in the event that updated information alters the NIS/AIS status of a taxon found at Milne Port such that it could be added or removed from the Watch List or Trigger List, will be presented to MEWG. The NIS/AIS program is conducted at a surveillance level and designed to flag potential invasive or non-indigenous species; the independent verification process is a crucial element of the program, ensuring third party review by global specialists in particular taxa. A summary of specimens flagged for review is provided in Table 8-11 and results of verifications will be updated as they become available. A summary of the newly recorded taxa in 2024 and their risk statuses is presented in Appendix 8E-1, and the record of verifications is available in Appendix 8E-2. A complete list of the Project Watch List for Milne Port is included in Appendix 8E-3.

Table 8-11: Summary of External Taxa Verifications (2022 to 2024) and Updates to Program Watchlist

Initial ID	Year(s) Present	Verification Method	Independent ID (Reviewer)	Risk[1]	Action	Rationale
Annelida						
Hesperonoe sp.	2020, 2022, 2023	Morphological assessment	TBD	TBD	TBD	Unidentified species from the genus *Hesperonoe* were flagged in 2020 due to *Hesperonoe* being a poorly described genus with limited georeferenced collection records. Specimens were collected again in 2022 and 2023. Flagged for external review, however the specimens were lacking features required for verification. Currently the identification is considered unresolved, and the taxon remains on the Watch List as Low Risk.
Chaetozone anasima	2024	Morphological assessment	TBD	TBD	TBD	Morphological match to a relatively new species description with no range on record apart from two surveys in NE USA. Flagged for external review, with reviewer to be identified.
Paramphitrite birulai	2020, 2021, 2023, 2024	N/A	N/A	N/A	N/A	Taxon currently on Watch List as Low Risk due to being a poorly described species with a limited range on record and a potential NIS/AIS occurrence in the Adriatic Sea. Observed in 2024 in benthic samples. No change to status following updated literature review.
Bryophyta						
Bryophyta indet.	2022	Morphological assessment	TBD (UBC)	TBD	TBD	Global phylum of mosses, collection records include specimens from the Eastern Canadian Arctic, including Baffin Island in close proximity to Milne Port and at Ragged Island. Sent for independent review with a specialist at University of British Columbia to further resolve the identification. Results of review remain pending.
Chlorophyta						
Chaetomorpha sp. 3GWS	2024	N/A	N/A	N/A	N/A	Reviewed by specialist in 2024. Specimen did not morphologically match any known species. Genetic match to a single specimen collection of an undescribed species from Maine. Further resolution considered unlikely. Flagged for further literature review.
Ochrophyta						
Desmarestia ligulata	2024	N/A	N/A	N/A	N/A	Genetic match to *Desmarestia ligulata*, a species recorded as AIS to China and with no clear Eastern Canadian Arctic records. Result was flagged as a potential lab contamination.

Initial ID	Year(s) Present	Verification Method	Independent ID (Reviewer)	Risk[1]	Action	Rationale
cf. *Punctaria latifolia*	2022	Morphological assessment	TBD (UNB)	TBD	TBD	Specimen was an inexact match to *Punctaria latifolia*, a filamentous brown alga that has no records of occurrence in the Canadian Arctic. Listed on an AIS database as cryptogenic in Australia. Currently the identification is considered unresolved, and the taxon has been precautionarily placed on the Watch List as Low Risk. Specimens will be sent to UNB for verification.
cf. *Stictyosiphon soriferus*	2022	Morphological assessment	TBD (UNB)	TBD	TBD	Specimen was an inexact match to *Stictyosiphon soriferus*, a brown alga that has a single record of occurrence in the Canadian Sub-Arctic (Churchill). Listed on an AIS database as introduced in Australia. Currently the identification is considered unresolved, and the taxon has been precautionarily placed on the Watch List as Low Risk. Specimens will be sent to UNB for verification.
Rhodophyta						
Antithamnion cf. *sparsum*	2024	N/A	N/A	N/A	N/A	Genetic match to presumed *Antithamnion sparsum*, an Asian species recorded as NIS to Nova Scotia and with no Arctic records. Result was flagged as a potential false positive.
Polysiphonia kapraunii	2024	N/A	N/A	N/A	N/A	Genetic match to a species presumed to be limited to warmer waters. Limitations with the methods may have resulted in an inexact match.

[1] TBD: To be determined. Risk category and action will be determined for the taxonomic description following independent verification.

8.5.4.1 *Hesperonoe* sp.

Unidentified species from the genus *Hesperonoe* were flagged in benthic infauna samples in 2020 due to a limited range on record. Generally, the genus is considered Arctic-Boreal; however, collections are limited to Arctic waters near Alaska and Russia and the Pacific Ocean (GBIF 2025, WoRMS 2025).

In 2020, independent verification by Laval University was requested as a precaution due to uncertainty in the taxonomic record and Laval indicated that the specimens could instead be from the genus *Bylgides*, which had been observed previously in the Milne Port baseline and MEEMP surveys (WoRMS 2025, GBIF 2025, Golder 2020). However, Biologica disagreed with the corrected identification, believing the specimens to have visible characteristics that differentiated them from the genus *Bylgides* and were consistent with *Hesperonoe* (Macdonald 2021, pers. comm.). The identification was considered unresolved.

No species of *Hesperonoe* are listed in AIS databases. However, *Hesperonoe* was placed on the Watch List as a Low Risk taxon due to uncertainties in its identification, in the range on record and because it does not have a documented distribution in the Canadian Arctic.

Hesperonoe specimens identified in 2022 and 2023 surveys were flagged for verification, however, the specimens were missing elytra, features that would be required to resolve the identification (Macdonald 2025, pers. comm.). *Hesperonoe* sp. will be sent for verification should complete specimens be found in future survey years. Results of independent review will be presented when available.

- ***Hesperonoe* sp. was designated Low Risk and was placed on the Watch List in 2020, the status remains unchanged pending independent verification.**

8.5.4.2 Chaetozone anasima

Chaetozone anasima is a relatively recently described species with no defined range on record. The range is tentatively described as from the Northeastern United States, but this is based on collections from two locations (Massachusetts and Gulf of Maine) and may not reflect the complete range (Doner and Blake 2006, Blake 2022). *Chaetozone anasima* is morphologically similar to *C. setosa* and *C. curvata*, and collections in other locations may be misidentified as either of these species (Doner and Blake 2006, Blake 2022).

Specimens identified as *Chaetozone* sp. and as part of the *Chaetozone setosa* complex have been identified in Milne Port since baseline surveys. The specimens collected in 2024 had a distinctive recurved tip on the posterior spines that is not present in *Chaetozone setosa,* indicating the 2024 collections are not a refining of the species within the complex. The description of *Chaetozone anasima* is relatively new and has undergone a more recent refinement based on only a few collections (Doner and Blake 2006, Blake 2022). Similar specimens collected in previous surveys, including baseline surveys, may not have been able to be resolved past genus level and would have been left as *Chaetozone* sp. (Macdonald 2025, pers. comm,). The specimens collected in 2024 and identified as *Chaetozone anasima* are potentially a refinement of the taxonomy, rather than a new identification for Milne Port. *Chaetozone anasima, C. curvata,* and *C. setosa* are not listed in available NIS/AIS databases.

Due to the lack of a range description that includes the Eastern Canadian Arctic, *Chaetozone anasima* as been precautionarily flagged for independent verification and is placed on the Watch List as a “Low Risk” taxon.

- ***Chaetozone anasima* was designated Low Risk and has been placed on the Watch List.**

8.5.4.3 *Paramphitrite birulai*

When first identified in Milne Port in 2020, the terebellid polychaete *Paramphitrite birulai* was flagged and placed on the Watch List as Low Risk due to being a poorly described taxon with a limited taxonomic record. There were also potential indications of introductions in the Adriatic Sea, where it is described as non-indigenous, but not invasive (Costello et al. 2025, Loia 2017). Uncertainty in the range of this taxa was compounded by disagreement in the accepted name, with some sources indicating the species was *Amphitrite birulai*, which had a narrower range on record, with type localities in Scandinavian waters (WoRMS 2025). Collection records in North America were limited to a single specimen collected off the coast of Labrador in 1987 (Gagnon and Torgersen 2021) and in Yukon/Alaska under the junior synonym *P. tetrabranchiata* (GBIF 2025). There are also indications that the taxonomic record for *Paramphitrite* species is incomplete and requires further review (LaVesque et al. 2021). Further updates to collection records indicate the range may be wide and include the North Atlantic and high Arctic oceans (WoRMS 2025, GBIF 2025; Jirkov 2020).

In 2023, the specimens were forwarded to Dr. Julio Parapar, a specialist in terebellid polychaetes who originally described *P. tetrabranchiata,* for further review. Dr. Parapar concluded the specimens closely matched the most recent descriptions for *P. birulai*, however, features required for positive identification were missing (Parapar 2023, pers. comm.). Additionally, Dr. Parapar noted features on the third segment that are not described for any of the known species in this genus, indicating that these specimens may represent a currently undescribed species, highlighting the requirement for further review of *Paramphitrite*. *P. birulai* will remain on the Watch List pending further review of the genus. In 2024, two adult specimens of *P. birulai* were found in low abundances at stations on the eastern and northwestern transects in close proximity to the Ore Dock, indicating no meaningful trend in abundance or distribution has been observed in Milne Port since the genus was first recorded in 2020.

- ***Paramphitrite/Amphitrite birulai* is designated Low Risk and will remain on the Watch List.**

8.5.4.4 *Marenzelleria* sp.

Marenzelleria is a spionid polychaete genus with a representative species (i.e., *M. viridis*) on the Watch List. *Marenzelleria* sp. were first recorded in Milne Port in 2016 but were not flagged for review until the tentative identification of *M. viridis* in 2018. Specimens from 2018 through 2021 were subsequently corrected to the Arctic species *M. wireni* and potentially *M. arctia* and *M. neglecta* by a specialist in the taxonomic group, with the identification of *M. wireni* further confirmed through DNA analysis. The correction was further supported by environmental conditions at Milne Port matching habitat preferences for *M. wireni, M. neglecta*, and *M. arctia.*

Benthic sampling stations are focussed on repetitive sampling in the same locations to detect changes in abundances or diversity at specific locations. In years where a limited sampling program occurs, station selection includes specific stations targeted where Watch List taxa have previously been observed. In 2023 samples, two potential *Marenzelleria* specimens were found in samples collected near Phillips Creek, however genetic results were not initially conclusive. The specimens matched sequences for a *Spio* species, however the phylogenetic tree indicated the designation of *Spio* might be a misidentification as the phylogenetic tree indicated a close relation to the genus *Marenzelleria* (Appendix 8B-9). Further review of the sequences by the same specialist who reviewed the 2018 to 2021 specimens confirmed the 2023 specimens were also *M. wireni* (Radashevsky 2025, pers. comm.). No *Marenzelleria* sp. were detected in Milne Port samples in 2024. Since its first detection in 2016, *Marenzelleria* remains difficult to resample, with sporadic collections in low abundances despite targeted sampling, reinforcing the observation that invasive behaviour is not apparent in *Marenzelleria* in Milne Port. No

meaningful trend in abundance or distribution has been observed in Milne Port since the genus was first recorded in 2016.

Marenzelleria has an established presence in the Eastern Canadian Arctic, prior to project operations. *Marenzelleria wireni* was documented at Philpots Island, Lancaster Sound and Scott Inlet, Baffin Island in 1978 (Thomson 1982; Thomson and Cross 1980) in samples that were verified by a polychaete expert at the Canadian Museum of Nature. More recently, a DFO report appears to indicate the genus was detected by genetic means in Lancaster Sound in 2017 and in Hudson Bay in 2016, although supporting information on these detections is not provided by the authors (Morrison et al. 2023). *Marenzelleria* (as *M. viridis*) was also detected in Churchill using metabarcoding in 2011 (Chain et al. 2016), as well as morphology-based identifications in Gjoa Haven (Brown et al. 2011) and in Davis Strait (reported as *Scolelepides viridis* and later updated to *M. viridis,* Stewart et al. 1985).

In the Western Canadian Arctic, *M. arctia* has been found in DFO surveys of Tuktoyaktuk Harbour and Mason Bay, NT in 1980, 1982, 1985, and 1986 (Hopky et al., 1992; Canadian Museum of Nature collections). Specimens from the 1982 surveys were also documented as *Marenzelleria* cf. *viridis*, with the 'c.f.' designation indicating uncertainty that this was the correct nomenclature at the species level (ZSRO 2024). The type specimen of *M. arctia* (as *Scolecolepides arctius*) was collected in Collinson Point, Alaska (approximately 170 km west of the Canadian border), by the Canadian Arctic Expedition in 1913 (Chamberlin, 1920). The California Academy of Sciences collection contains *M. arctia* and *M. wireni* specimens from multiple sites along the Alaska coast of the Beaufort Sea collected in the 1970s and for which the species identity was verified to modern taxonomic descriptions in 2015.

The genus *Marenzelleria* appears from these historical records to have been widely established in the Canadian Arctic, including the Eastern Canadian Arctic, well before the commencement of Baffinland's operations, and the evidence points to at least some members of the genus (*M. arctia, M. wireni*) being native to the region. The status of *M. viridis* in the Canadian Arctic is less clear, as its native range is evidently the Atlantic coast of North America. However, there is a strong possibility it has been misidentified in a number of instances. Identification to the genus level is more certain than identification to species for polychaetes in the genus *Marenzelleria.* Taxonomic keys published for the northeastern coast of North America, commonly used for identification of Arctic species in the absence of keys to Arctic species, identify all members of *Marenzelleria* genus as the species *M. viridis*. Thus, there is a risk that morphological identifications of *M. viridis* represent potentially misidentified specimens of *M. wireni* or *M. arctia*. *Marenzelleria* sp. can be difficult to distinguish based simply on morphology due to a combination of limited descriptions, overlapping morphological traits, lack of differentiating features in immature specimens, and hybridization between species (Sikorski and Bick 2004; Bick 2005; Blank et al. 2008). *M. viridis*, *M. neglecta*, and *M. arctia* in particular are morphologically similar, resulting in the three species being part of a cryptic sibling species complex (Sikorski and Bick 2004, Bick 2005, Green 2015). The redescriptions of the genus, descriptions of new species based on historical collections (*M. bastropi* and *M. neglecta*), incorrect species nomenclature used in reporting, and synonymization of the former description of *M. jonesi* with *M. viridis* lead to uncertainty in the historical specimen records, particularly where distributions overlap (Blank et al. 2008, Sikorski and Bick 2004). As many historically collected specimens are no longer available, there is an inherent uncertainty as to which species may be represented by these original collections.

Marenzelleria species are known successful invaders to European waters, mediated by ballast water, and thus this genus is listed in AIS databases. Accordingly, this genus is designated as High Risk. However, biogeographic evidence suggests multiple species are indigenous to the Canadian Arctic or may be cryptogenic, while ecological evidence indicates the genus is not showing invasive behaviour in Milne Port. Further, documented occurrences

of the genus in waters around Baffin Island prior to the commencement of shipping operations confirm this is not a Project-related introduction (if it is to be considered an introduction at all). For these reasons, *Marenzelleria wireni* and *Marenzelleria arctia* were designated No Risk and were not placed on the Program Watch List, however, other members of the genus *Marenzelleria*, in particular *M. viridis*, are on the Watch List and subject to heightened monitoring efforts, as a precaution.

- ***Marenzelleria wireni* and *Marenzelleria arctia* are designated No Risk and are not considered taxa of concern in Milne Port.**
- ***Marenzelleria viridis* and *Marenzelleria* sp. remain on the Watch List as High Risk Taxa**

8.5.4.5 *Crassicorophium* sp./*Monocorophium* sp.

An amphipod crustacean was identified in 2013 and 2017 samples as *Monocorophium insidiosum* (2013 specimens were identified as *Corophium insidiosum* but corrected to *M. insidiosum* in 2017; Golder 2018). In 2018, individuals from the same genus were found with their identifying features missing and therefore only identified to the genus level. No species within this genus have confirmed distributions that include Arctic waters. *M. insidiosum* is a tube-building gammarid amphipod and a well-known fouling invasive species with a wide global distribution that is possibly non-indigenous to the Canadian Arctic (Molnar et al. 2008). Vectors for introduction and spread are through biofouling of ship hulls and hard substrates in harbours and ports and possibly also through accidental transplant (Fofonoff et al. 2018, Molnar et al. 2008).

Independent review by Laval University of *Monocorophium* specimens suggested that the specimens identified in Milne Port may have been *Crassicorophium bonellii* or *Crassicorophium* sp., although the identification was considered uncertain by Biologica (Macdonald 2020, pers. comm.). This genus naturally occurs in the Canadian Arctic and was first identified in baseline surveys (*C. bonellii,* as *Corophium bonellii*) at Milne Port. *C. bonellii* has a known range similar to *M. insidiosum*, covering Eastern North America and the Northeastern Atlantic Ocean, but is not considered invasive in these locations (GBIF 2025, Sirenko et al. 2025). The genus *Crassicorophium* contains at least two species (*C. clarencense* and *C. crassicorne*) with a native range that includes Arctic Canada (GBIF 2025, WoRMS 2025).

In 2021, specimens tentatively identified as *Crassicorophium bonellii* were collected for molecular analysis. Results were inconclusive, but indicated the specimens were not *Monocorophium* species or *Crassicorophium bonellii*. The closest match was to unidentified specimens collected from Victoria Island in Nunavut, which were thought to be *C. clarencense* (Macdonald 2022b, pers. comm.). Specimens were also sent to Dr. Craig Straude at Friday Harbor Laboratories at the University of Washington for morphological assessment. Dr. Straude confirmed the identification for *C. clarencense* for specimens analysed based on several validating features (Macdonald 2022c, pers. comm.).

Crassicorophium sp. and *Monocorophium* sp. were not observed in Milne Port in 2024.

- ***Monocorophium* sp. remains on the Watch List as a High Risk taxon**

8.5.4.6 Bryophyta indet.

An unidentified bryophyte specimen was collected from quadrats located at the mouth of Phillips Creek in 2022. Bryophytes are generally terrestrial and freshwater organisms, and Biologica was unable to definitively identify the species. The bryophyte specimen was set aside to be sent for independent review by a specialist. Results of the independent review remain pending.

In 2024, additional bryophyte specimens that were morphologically similar to those collected in 2022 were examined in the field by the macroflora specialist from UNB and identified as *Pseudocalliergon brevifolium* (alternatively called *Drepanocladus brevifolius*), a Canadian Arctic species. There are hundreds of potential species of bryophyte with well-documented natural ranges that include northern Baffin Island (GBIF 2025), including records from terrestrial locations within the region near Ragged Island and Milne Port. Therefore, Bryophyta indet. is tentatively considered to not be a taxon of concern, pending independent review.

- **Bryophyta indet. is designated No Risk and is not considered a taxon of concern in Milne Port.**

8.5.4.7 *Chaetomorpha* sp. 3GWS

The genus *Chaetomorpha* was first identified in Milne Port in 2021 (as *Chaetomorpha melagonium*). This genus includes multiple species with accepted ranges that include the Canadian arctic. In general, *Chaetomorpha* species may be hard to distinguish morphologically (see discussion of *Chaetomorpha brachygona* in Section 8.5.2.2) and may be difficult to resolve genetically. Specimens collected in 2024 included matches to a single specimen collection from Maine that was designated *Chaetomorpha* sp. 3GWS, which has no available description. As the only record for this taxon is located outside of the Arctic, *Chaetomorpha* sp. 3GWS was precautionarily flagged for further review and is placed on the Watch List as a “Low Risk” taxon. Due to the lack of species description for this genetic group, it is not anticipated that further review will resolve this identification. In subsequent surveys, this taxon will be monitored for any indicators of invasive behaviour.

- ***Chaetomorpha* sp. 3GWS was designated Low Risk and has been placed on the Watch List.**

8.5.4.8 Desmarestia ligulata

Molecular examination of Milne Port specimens indicated the presence of *Desmarestia ligulata.* The identification was flagged by UNB as being a potential laboratory contamination and the quality of the result is uncertain (Appendix 8B-8). Despite the uncertainty of the identification, *Desmarestia ligulata* was flagged due to collection records indicating this species is largely temperate, with Arctic records limited to southern Alaska and Scandinavia (WoRMS 2025, GBIF 2025). Additionally, *D. ligulata* is listed as introduced to China, via either shipping vectors or accidentally through aquaculture of *Undaria pinnatifida* (Xiong et al. 2017, Lutaenko et al. 2013).

- ***Desmarestia ligulata* was designated Low Risk and has been placed on the Watch List.**

8.5.4.9 cf. *Punctaria latifolia*

In 2022, specimens tentatively classified as cf. *Punctaria latifolia* were identified on settlement substrates. While the specimens were an inexact match to the species, *P. latifolia* is a species of bladed brown algae with a broad global range that includes records from the North Atlantic and Greenland Sea (WoRMS 2025, GBIF 2025, Guiry and Guiry 2025). No records of this species exist in the Canadian Arctic, and it was present on at least one AIS database as cryptogenic in Australia (Costello et al. 2025, Hewitt et al. 2004). Due to the limitations in algal taxonomy and Canadian Arctic surveys described in Section 8.3.3.3.2, there is uncertainty in whether this species can be considered alien to the Canadian Arctic, however, the specimens were flagged for further review as a precaution.

As the specimens were not an exact match to *P. latifolia*, it may be that these specimens are of a morphologically related species that is not yet described. Notably, DNA barcoding of algae collected in Churchill identified the presence of a *Punctaria* species that was not able to be matched to any currently described species, resulting in the authors suggesting that it may be a new species (Saunders and McDevit 2013). Specimens will be sent to UNB for verification.

- ***Punctaria latifolia* is designated Low Risk and will remain on the Watch List.**

8.5.4.10 cf. *Stictyosiphon soriferus*

In 2022, cf. *Stictyosiphon soriferus* was tentatively identified on the settlement substrates. While the specimens were an inexact match to the species, *Stictyosiphon soriferus* is a species of brown algae with a broad range on record throughout the North Atlantic and Greenland Sea (WoRMS 2025, GBIF 2025, Guiry and Guiry 2025). However, although there is a single record of occurrence record in the surrounding region (Churchill), no records exist for this species in the Eastern Canadian Arctic (Saunders and McDevit 2013). Additionally, this species has been recorded as introduced to Australia, likely through the vector of hull fouling (Hewitt et al. 2004).

As the specimens were not an exact match to *S. soriferus*, it may be that these specimens are of a morphologically related species that is not yet described. Due to the limitations in algal taxonomy and Canadian Arctic surveys described in Section 8.3.3.3.2, there is uncertainty in whether this species can be considered alien to the Canadian Arctic, however, the specimens were flagged for further review as a precaution. Specimens will be sent to UNB for verification.

- ***Stictyosiphon soriferus* is designated Low Risk and will remain on the Watch List.**

8.5.4.11 *Antithamnion* cf. *sparsum*

In the 2024 Milne Port NIS/AIS Monitoring Program, sequences generated from scrapings of settlement substrates and rocks were tentatively matched to *Antithamnion sparsum*, an Asian species that is considered NIS to Nova Scotia and does not have an Arctic range on record (Fofonoff et al. 2018, Costello et al. 2025, Brooks and Krumhansl 2023). Due to the method of sample collection, morphological confirmation could not be made. Additionally, UNB considered these results as a potential false positive (see Section 8.5.1). However, *Antithamnion* cf. *sparsum* was precautionarily flagged for further review and was placed on the Watch List as a Low Risk taxon.

- ***Antithamnion* cf. *sparsum* was designated Low Risk and has been placed on the Watch List.**

8.5.4.12 *Polysiphonia kapraunii*

A scraping from a settlement plate in 2024 samples was a genetic match to *Polysiphonia kapraunii,* which is a recently described species from North Carolina that may not naturally occur in the Arctic (Guiry and Guiry 2025). Genetic work reveals some uncertainty in the taxonomic designation, indicating that it forms a clade with at least one closely related species with a broader range, and may not be its own species (Diaz-Tapia et al.2018). While the identification in 2024 was not considered a false positive, the result was flagged as uncertain due to the method being limited in distinguishing between closely related species (Appendix 8B-8). Due to the lack of a range description that includes Arctic waters, *Polysiphonia kapraunii* was flagged for further review and was placed on the Watch List as a Low Risk taxon as a precaution.

- ***Polysiphonia kapraunii* was designated Low Risk and has been placed on the Watch List.**

8.6 Conclusions and Recommendations

The NIS/AIS program addresses Project Terms and Conditions Nos. 87, 89, and 91. Detection is conducted at a surveillance level and designed to flag potential invasive or non-indigenous species introduced through Project-related vectors. Approximately 1,204 taxa (including 499 identifiable to species) have been observed in Milne Inlet through monitoring surveys to date, including 54 new additions to the taxonomic inventory in 2024. The taxonomic inventory was also updated in 2024 following re-examination of macroalgal specimens (Appendix 8B-5). The majority of taxa have been designated as “No Risk” and are not considered to be of concern. Taxonomic sampling at Milne Port remains one of the most comprehensive multi-trophic level species inventory programs in the Canadian Arctic, a region historically under-sampled in comparison to Eurasian Arctic and Sub-Arctic regions.

Directed literature review of newly observed taxa in 2024 has resulted in five taxa being added to the Project Watch List for increased monitoring effort, such as review by specialists or DNA analysis. Independent taxonomic verifications for several 2023 and 2024 specimens remain pending.

The complete program Watch List, consisting of 13 taxa, is presented in Appendix 8E-3. As yet, there has not been confirmation of Project-related introduction of an NIS/AIS species documented at Milne Port and no species have been placed on the Trigger List to initiate rapid response. Based on the number of specimens flagged and sent for independent verification, monitoring is considered to be effective and is functioning as intended.

The following are recommendations for the ongoing NIS/AIS program:

- **Continue sampling across multiple trophic levels in 2025.**
- **Continue expanding the Milne Inlet Taxonomic Inventory.**
- **Continue screening flagged specimens for known geographic ranges and NIS/AIS status.**
- **Continue collecting and reviewing genetic evidence for *Marenzelleria* sp. and *Monocorophium* sp., in addition to macroflora, bryozoan, and tunicate taxa in general, including targeted sampling to obtain specimens for DNA barcoding to further resolve these taxonomic groups in Milne Port.**

8.7 Closure

We trust this information is sufficient for your needs at this time. Should you have any questions or concerns, please do not hesitate to contact Phil Rouget, on behalf of the undersigned, at +1 250 419 4945.

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APPENDIX 8A-1

Benthic Infauna Presence/Absence from Survey Years 2010-2024

Phylum	Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	2010	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Acanthonotozomatidae	-	Acanthonotozoma inflatum	-	-	-	-	-	-	X	-	-	-	-	-
Arthropoda	Chelicerata	Arachnida	Acari	-	-	-	Acari indet.	X	X	-	-	-	-	X	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Aceroides latipes*	-	-	-	-	-	-	X	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Aceroides* sp.	-	-	-	-	-	X	-	-	-	-	-	-
Arthropoda	Chelicerata	Pycnogonida	-	Pantopoda	Ammotheidae	-	*Achelia* sp.	-	-	-	-	X	-	-	-	-	-	-	-
Arthropoda	Chelicerata	Pycnogonida	-	Pantopoda	Ammotheidae	-	*Achelia spinosa*	-	-	-	X	-	-	-	-	-	-	-	-
Mollusca	-	Gastropoda	Heterobranchia	Cephalaspidea	Tornatinidae	-	*Acteocina canaliculata*	X	-	-	-	-	-	-	-	-	X	-	-
Mollusca	-	Gastropoda	Heterobranchia	Cephalaspidea	Tornatinidae	-	*Acteocina* sp.	-	-	-	-	X	-	X	X	-	-	-	X
Cnidaria	-	Anthozoa	Hexacorallia	Actiniaria	-	-	Actiniaria indet.	-	-	-	-	-	-	-	Y	-	-	X	-
Mollusca	-	Gastropoda	Caenogastropoda	Neogastropoda	Cancellariidae	Admetinae	*Admete viridula*	-	-	-	X	-	X	X	X	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Nephtyidae	-	*Aglaophamus malmgreni*	-	-	-	-	-	-	X	X	-	X	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Nephtyidae	-	*Aglaophamus* sp.	-	-	-	-	-	X	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Akanthophoreidae	-	Akanthophoreidae indet.	-	-	-	-	-	-	-	-	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Akanthophoreidae	-	*Akanthophoreus gracilis*	-	-	-	-	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Akanthophoreidae	-	*Akanthophoreus* sp.	-	-	-	-	Y	X	Y	X	Y	X	-	X
Bryozoa	-	Gymnolaemata	-	Ctenostomatida	Alcyonidiidae	-	*Alcyonidium* sp.	-	-	-	-	-	X	X	X	X	-	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	Terebellinae	*Amaeana* sp.	-	-	-	-	-	X	-	-	-	-	-	-
Bryozoa	-	Gymnolaemata	-	Ctenostomatida	Vesiculariidae	-	*Amathia* sp.	-	-	-	-	X	-	X	-	-	-	-	-
Chordata	Vertebrata	Teleostei	-	Perciformes	Ammodytidae	-	*Ammodytes* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ampeliscidae	-	*Ampelisca eschrichtii*	-	-	X	X	X	X	X	X	X	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ampeliscidae	-	*Ampelisca* sp.	-	-	X	X	-	-	Y	-	-	X	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ampeliscidae	-	Ampeliscidae indet.	-	-	-	X	-	X	-	X	-	X	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	Ampharetinae	*Ampharete borealis*	-	-	-	-	-	-	X	X	-	X	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	Ampharetinae	*Ampharete finmarchica*	-	-	-	-	-	-	-	X	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	Ampharetinae	*Ampharete oculata*	-	-	X	-	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	Ampharetinae	*Ampharete petersenae*	-	-	-	-	-	-	-	X	X	-	X	X
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	Ampharetinae	*Ampharete* sp.	-	X	-	X	Y	X	Y	X	Y	X	X	X
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	Ampharetinae	*Ampharete vega*	-	-	-	-	X	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	Ampharetinae	Ampharetid sp. B	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	Ampharetinae	Ampharetid sp. E	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	-	Ampharetidae indet.	X	X	X	X	Y	-	Y	X	Y	X	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	Ampharetinae	*Amphicteis gunneri*	-	X	X	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	Ampharetinae	*Amphicteis sundevalli*	X	-	-	-	X	X	X	X	X	-	X	-
Echinodermata	Asterozoa	Ophiuroidea	Myophiuroidea	Amphilepidida	-	-	Amphilepidida indet.	-	-	-	-	-	-	-	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Amphilochidae	-	Amphilochidae indet.	-	-	-	-	Y	-	-	X	-	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Amphilochidae	-	*Amphilochus hamatus*	-	-	-	-	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Amphilochidae	-	*Amphilochus* sp.	-	-	-	-	-	X	-	-	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	-	-	Amphipoda indet.	X	X	X	X	Y	X	X	X	Y	X	X	-
Nemertea	-	Hoplonemertea	-	Monostilifera	Amphiporidae	-	Amphiporus sp.	-	-	-	-	-	-	-	X	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	Terebellinae	*Amphitrite cirrata*	-	-	-	-	-	-	-	X	X	X	X	-
Chordata	Vertebrata	Teleostei	-	Perciformes	Stichaeidae	Lumpeninae	*Anisarchus medius*	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	Ampharetinae	*Anobothrus gracilis*	-	-	-	X	-	-	-	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Anonyx laticoxae*	-	-	-	-	-	-	X	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Anonyx lilljeborgi*	-	-	-	-	-	-	-	X	X	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Anonyx nugax*	X	X	X	X	X	-	X	X	-	-	-	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Anonyx ochoticus*	-	-	-	X	-	-	-	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Anonyx pacificus*	-	-	-	X	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Anonyx sarsi*	-	-	X	X	X	X	-	X	-	-	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Anonyx* sp.	-	X	X	X	Y	X	Y	X	Y	X	X	X
Cnidaria	-	Hydrozoa	Hydroidolina	Anthoathecata	-	-	Anthoathecata indet.	-	-	-	-	-	-	Y	X	-	X	X	X
Cnidaria	-	Anthozoa	-	-	-	-	Anthozoa indet.	-	-	-	-	-	-	-	Y	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	-	Aoridae indet.	-	-	-	-	-	-	-	X	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Cirratulidae	-	*Aphelochaeta marioni*	-	X	-	-	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Cirratulidae	-	*Aphelochaeta* sp.	-	-	-	-	X	X	Y	X	Y	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Calliopiidae	-	*Apherusa jurinei*	-	X	-	-	-	-	-	-	-	-	-	-

Phylum	Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	2010	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Calliopiidae	-	*Apherusa megalops*	-	X	-	-	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Aphroditidae	-	Aphroditidae indet.	-	X	-	-	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Apistobranchidae	-	*Apistobranchus* sp.	-	-	-	-	X	X	X	X	X	X	X	X
Mollusca	Aculifera	Aplacophora	-	-	-	-	Aplacophora indet.	-	-	-	-	X	X	-	-	-	-	-	-
Chordata	Tunicata	Ascidiacea	-	Aplousobranchia	-	-	Aplousobranchia indet.	-	-	-	-	-	X	X	X	-	-	-	-
Echinodermata	Echinozoa	Holothuroidea	Paractinopoda	Apodida	-	-	Apodida indet.	-	-	-	-	-	-	Y	Y	-	-	-	-
Arthropoda	Chelicerata	Arachnida	-	-	-	-	Arachnida indet.	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta/Archiannelida	Polychaeta incertae sedis	Archiannelida	-	-	Archiannelid indet.	-	X	-	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Crangonidae	-	*Argis dentata*	-	-	-	-	-	-	-	-	-	-	X	-
Mollusca	-	Gastropoda	Caenogastropoda	Littorinimorpha	Capulidae	-	*Ariadnaria borealis*	-	-	X	X	X	X	X	X	X	X	X	-
Annelida	-	Polychaeta	Sedentaria	-	Paraonidae	-	*Aricidea (Acmira) catherinae*	-	-	-	-	-	-	X	-	-	-	X	X
Annelida	-	Polychaeta	Sedentaria	-	Paraonidae	-	*Aricidea (Aricidea) minuta*	-	-	-	-	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	-	Paraonidae	-	*Aricidea (Strelzovia) antennata*	-	-	-	-	-	-	X	X	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Paraonidae	-	*Aricidea catherinae*	-	X	-	-	X	-	-	X	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Paraonidae	-	*Aricidea hartmanae*	-	-	-	-	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	-	Paraonidae	-	*Aricidea nolani*	-	X	-	-	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	-	Paraonidae	-	*Aricidea* sp.	X	X	-	X	Y	X	Y	X	Y	X	X	X
Annelida	-	Polychaeta	Sedentaria	-	Paraonidae	-	*Aricidea* sp. A	-	-	-	X	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Arrhis* sp.	-	-	-	-	-	X	X	-	-	-	X	-
Chordata	Tunicata	Ascidiacea	-	Phlebobranchia	Ascidiidae	-	*Ascidia callosa*	-	X	-	-	-	-	-	-	-	-	-	-
Chordata	Tunicata	Ascidiacea	-	Phlebobranchia	Ascidiidae	-	*Ascidia* sp.	-	X	X	-	X	X	Y	X	Y	-	X	-
Chordata	Tunicata	Ascidiacea	-	-	-	-	Ascidiacea indet.	-	-	-	-	Y	-	X	X	Y	X	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	-	-	Asellota indet.	-	-	-	-	Y	-	-	-	-	-	-	-
Mollusca	-	Bivalvia	Autobranchia	Carditida	Astartidae	-	*Astarte borealis*	X	X	X	X	X	X	X	X	X	X	X	X
Mollusca	-	Bivalvia	Autobranchia	Carditida	Astartidae	-	*Astarte montagui*	X	-	X	X	X	X	X	X	X	X	X	X
Mollusca	-	Bivalvia	Autobranchia	Carditida	Astartidae	-	*Astarte* sp.	X	X	X	X	Y	X	Y	X	Y	X	X	X
Echinodermata	Asterozoa	Asteroidea	-	Forcipulatida	Asteriidae	-	Asteriidae indet.	-	-	X	-	-	-	-	-	-	-	-	-
Echinodermata	Asterozoa	Asteroidea	-	-	-	-	Asteroidea indet.	-	-	-	-	-	-	-	-	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Atylidae	Atylinae	*Atylus carinatus*	X	X	X	X	X	X	X	X	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Atylidae	Atylinae	*Atylus* sp.	-	-	-	-	-	-	-	Y	-	-	X	-
Mollusca	-	Bivalvia	Autobranchia	Lucinida	Thyasiridae	-	*Axinopsida serricata*	-	-	-	-	X	-	X	-	-	X	-	-
Mollusca	-	Bivalvia	Autobranchia	Lucinida	Thyasiridae	-	*Axinopsida* sp.	-	-	-	-	-	-	Y	X	Y	-	X	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Euclymeninae	*Axiothella* sp.	-	-	-	-	-	-	-	X	-	X	-	-
Arthropoda	Crustacea	Hexanauplia	Thecostraca	Sessilia	-	-	Balanomorpha indet.	-	-	-	-	X	X	X	X	X	X	X	X
Arthropoda	Crustacea	Hexanauplia	Thecostraca	Sessilia	Balanidae	Balaninae	*Balanus* sp.	X	-	-	X	-	-	-	-	-	-	-	-
Entoprocta	-	-	-	Coloniales	Barentsiidae	-	*Barentsia* sp.	-	-	-	-	-	-	-	X	-	-	-	-
Mollusca	-	Bivalvia	Autobranchia	Arcida	Arcidae	-	*Bathyarca glacialis*	-	-	-	-	-	X	X	X	X	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Bathymedon obtusifrons*	-	-	-	X	X	-	-	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Bathymedon* sp.	-	-	-	-	-	-	-	Y	-	X	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Bispira* sp.	-	-	-	-	-	X	-	-	-	-	-	X
Mollusca	-	Bivalvia	-	-	-	-	Bivalvia indet.	-	X	X	X	Y	-	X	X	X	X	X	X
Mollusca	-	Bivalvia	-	-	-	-	Bivalvia sp. A	-	-	-	X	-	-	-	-	-	-	-	-
Chordata	Tunicata	Ascidiacea	-	Stolidobranchia	Pyuridae	-	*Boltenia echinata*	-	-	X	-	X	X	X	X	-	X	X	-
Chordata	Tunicata	Ascidiacea	-	Stolidobranchia	Pyuridae	-	*Boltenia* sp.	-	-	-	-	-	-	-	Y	-	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Littorinimorpha	Rissoidae	-	*Boreocingula castanea*	-	X	-	X	-	X	X	X	X	X	X	X
Cnidaria	-	Hydrozoa	Hydroidolina	Anthoathecata	Bougainvilliidae	-	Bougainvilliidae indet.	-	-	-	-	X	X	-	X	-	X	X	-
Brachiopoda	-	-	-	-	-	-	Brachiopoda indet.	-	-	-	-	-	-	-	-	X	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Diastylidae	-	*Brachydiastylis resima*	X	X	X	X	X	X	X	X	X	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Diastylidae	-	*Brachydiastylis* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Flabelligeridae	-	*Brada villosa*	-	X	-	-	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Branchiomma* sp.	-	-	-	-	X	X	-	X	-	-	X	X
Bryozoa	-	-	-	-	-	-	Bryozoa indet.	-	-	-	-	Y	X	-	X	Y	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Neogastropoda	Buccinidae	-	Buccinidae indet.	-	-	-	-	Y	X	Y	-	Y	X	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Neogastropoda	Buccinidae	-	*Buccinum ciliatum*	-	-	-	-	-	-	X	-	-	X	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Neogastropoda	Buccinidae	-	*Buccinum hydrophanum*	-	-	-	-	-	X	X	X	-	-	-	-

Phylum	Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	2010	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Mollusca	-	Gastropoda	Caenogastropoda	Neogastropoda	Buccinidae	Bucininae	*Buccinum* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	-	-	Buguloidea indet.*	-	-	-	-	-	-	-	-	-	X	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Littorinimorpha	Naticidae	Polinicinae	*Bulbus* sp.	-	X	-	-	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Serpulidae	Spirorbinae	*Bushiella (Jugaria) quadrangularis*	-	-	-	-	X	-	-	X	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Serpulidae	Spirorbinae	*Bushiella* sp.	-	-	-	-	-	-	-	-	Y	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ampeliscidae	-	*Byblis gaimardii*	X	-	-	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ampeliscidae	-	*Byblis* sp.	-	-	X	X	X	X	Y	X	Y	-	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Bylgides groenlandicus*	X	-	-	-	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Bylgides promamme*	-	-	-	-	-	-	-	X	-	-	X	X
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Bylgides sarsi*	-	X	X	X	X	X	-	X	X	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Bylgides* sp.	-	-	-	-	-	Y	-	-	-	-	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Bylgides* sp. A	-	-	-	X	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	-	-	Calanoida indet.	-	-	-	-	-	-	-	-	Y	X	-	-
Porifera	-	Calcarea	-	-	-	-	Calcarea indet.*	-	-	-	-	X	X	X	X	-	-	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Calliopiidae	-	Calliopiidae indet.	-	-	-	-	X	X	-	-	-	-	X	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Calloporidae	-	*Callopora* sp.	-	-	-	-	-	-	-	-	X	-	-	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Calloporidae	-	Calloporidae indet.	-	-	-	-	-	X	X	X	Y	-	-	-
Cnidaria	-	Hydrozoa	-	Leptothecata	Campanulinidae	-	*Calycella* sp.	-	-	-	-	-	-	-	-	X	-	-	-
Cnidaria	-	Hydrozoa	-	Leptothecata	Campanulariidae	-	Campanulariidae indet.	-	-	-	-	-	-	-	-	Y	X	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Nannastacidae	-	*Campylaspis rubicunda*	-	-	-	-	X	X	X	X	X	X	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Nannastacidae	-	*Campylaspis* sp.	-	-	-	-	Y	-	-	-	-	X	-	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Candidae	-	Candidae indet.	-	-	-	-	-	-	-	-	Y	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Capitellidae	-	*Capitella capitata* complex	X	X	-	-	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	-	Capitellidae	-	Capitellidae indet.	-	-	-	X	Y	-	Y	X	-	-	X	-
Mollusca	-	Bivalvia	Autobranchia	Cardiida	Cardiidae	-	Cardiidae indet.	-	-	-	-	Y	-	-	X	Y	-	X	-
Nemertea	-	Palaeonemertea	-	Carinomiformes	Carinomidae	-	*Carinoma* sp.	-	-	-	-	-	X	-	X	-	-	X	-
Mollusca	-	Caudofoveata	-	-	-	-	Caudofoveata indet.	-	-	-	-	-	-	-	Y	Y	-	-	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Calloporidae	-	*Cauloramphus* sp.	-	-	-	-	-	-	-	-	X	-	-	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Hippothoidae	-	*Celleporella hyalina*	-	-	-	-	X	-	-	-	-	-	-	-
Mollusca	-	Gastropoda	Heterobranchia	Cephalaspidea	-	-	Cephalaspidea indet.	-	-	-	-	Y	X	Y	X	Y	X	X	-
Nemertea	-	Palaeonemertea	-	Archinemertea	Cephalotrichidae	-	*Cephalothrix* sp.	-	-	-	-	X	X	X	X	X	X	X	X
Nemertea	-	Pilidiophora	-	Heteronemertea	Lineidae	-	*Cerebratulus* sp.	-	X	X	-	X	X	X	X	-	-	-	-
Cnidaria	-	Anthozoa	Ceriantharia	Spirularia	Cerianthidae	-	*Cerianthus lloydii*	-	-	-	-	-	-	-	X	-	-	-	-
Mollusca	-	Caudofoveata	-	Chaetodermatida	Chaetodermatidae	-	*Chaetoderma nitidulum*	-	-	-	-	-	-	-	-	-	-	X	-
Mollusca	-	Caudofoveata	-	Chaetodermatida	Chaetodermatidae	-	*Chaetoderma* sp.	-	-	X	X	X	X	X	X	X	X	X	-
Mollusca	-	Caudofoveata	-	Chaetodermatida	Chaetodermatidae	-	Chaetodermatidae indet.	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Cirratulidae	-	***Chaetozone anasima***	-	-	-	-	-	-	-	-	-	-	-	X
Annelida	-	Polychaeta	Sedentaria	Terebellida	Cirratulidae	-	*Chaetozone bathyala*	-	-	-	-	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	Terebellida	Cirratulidae	-	*Chaetozone careyi*	-	-	-	-	X	X	-	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	Terebellida	Cirratulidae	-	*Chaetozone pigmentata*	-	-	-	-	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	Terebellida	Cirratulidae	-	*Chaetozone setosa* complex	-	X	X	X	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	Terebellida	Cirratulidae	-	*Chaetozone* sp.	-	-	-	-	Y	X	Y	X	Y	X	X	X
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	-	-	Cheilostomatida indet.	-	-	-	-	-	-	Y	X	Y	X	X	X
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	-	Chironomidae indet.	X	-	-	-	-	X	-	-	-	-	X	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Chironominae	Chironominae indet.	X	-	-	-	-	-	-	-	-	-	-	-
Mollusca	-	Bivalvia	Autobranchia	Pectinida	Pectinidae	Pedinae	*Chlamys islandica*	-	-	X	X	X	X	X	X	X	-	-	-
Arthropoda	Crustacea	Hexapoda	Insecta	Plecoptera	Chloroperlidae	-	Chloroperlidae indet.	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Myxicolinae	*Chone duneri*	-	-	-	-	X	X	-	X	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Myxicolinae	*Chone* sp.	X	-	-	-	-	-	-	-	X	-	-	-
Mollusca	-	Bivalvia	Autobranchia	Cardiida	Cardiidae	Clinocardiinae	*Ciliatocardium ciliatum*	X	-	X	X	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	Terebellida	Cirratulidae	-	Cirratulidae indet.	X	X	X	X	Y	X	Y	X	Y	X	X	X
Annelida	-	Polychaeta	Sedentaria	Terebellida	Cirratulidae	-	Cirratulidae sp. A	-	-	-	X	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Hexanauplia	-	-	-	-	Cirripedia indet.	-	-	X	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Pectinariidae	-	*Cistenides granulata*	X	X	X	X	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	Terebellida	Pectinariidae	-	*Cistenides hyperborea*	X	-	-	-	-	-	-	-	-	X	X	-

Phylum	Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	2010	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Annelida	-	Polychaeta	Sedentaria	Terebellida	Pectinariidae	-	*Cistenides sp.**	-	-	-	-	-	-	-	-	-	X	-	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Chironominae	*Cladopelma* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Mollusca	-	Bivalvia	Autobranchia	Cardiida	Cardiidae	Clinocardiinae	Clinocardiinae indet.	-	-	-	-	-	-	Y	-	-	-	-	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Empididae	Clinocerinae	*Clinocera* sp.	-	-	-	-	-	-	-	X	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Euclymeninae	*Clymenura polaris*	-	-	-	-	-	-	X	X	-	X	X	X
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Euclymeninae	*Clymenura* sp.	-	-	-	-	X	X	Y	X	Y	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Neogastropoda	Columbellidae	-	Columbellidae indet.	-	-	-	-	-	X	-	-	-	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Neogastropoda	Buccinidae	-	Colus sp.	-	-	-	-	X	X	-	-	-	-	-	-
Arthropoda	Crustacea	Hexanauplia	Copepoda	-	-	-	Copepoda indet.	-	-	-	-	-	-	-	Y	-	-	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	-	Corophiidae indet.	-	-	-	X	-	X	Y	X	Y	X	-	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiinae	*Corophium* sp.	X	X	-	-	-	-	-	-	-	-	-	-
Cnidaria	-	Hydrozoa	Hydroidolina	Anthoathecata	Corynidae	-	Corynidae indet.	-	-	-	-	-	-	X	-	-	-	-	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Chironominae	*Corynocera* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	-	Cossuridae	-	*Cossura longocirrata*	-	X	-	-	-	-	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	-	Cossuridae	-	*Cossura* sp.	X	-	X	X	X	X	-	-	-	-	-	-
Chordata	Vertebrata	Actinopterygii	-	Scorpaeniformes	Cottidae	-	Cottidae indet.	-	-	-	-	-	-	X	X	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Crangonidae	-	Crangonidae indet.	-	-	-	-	-	-	-	Y	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiinae	*Crassicorophium bonellii*	-	X	-	-	X	X	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiinae	*Crassicorophium clarencense*	-	-	-	-	-	-	-	X	X	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiinae	*Crassicorophium* sp.	-	-	-	-	-	-	-	-	Y	-	X	-
Mollusca	-	Bivalvia	Autobranchia	Mytilida	Mytilidae	Crenellinae	*Arvella faba*	X	X	X	X	X	X	-	-	-	-	-	X
Mollusca	-	Bivalvia	Autobranchia	Mytilida	Mytilidae	Crenellinae	*Crenella* sp.	-	X	-	-	-	-	-	-	-	-	-	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Cribrilinidae	-	*Cribrilina* sp.	-	-	-	-	-	-	-	-	X	-	-	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Orthocladiinae	*Cricotopus/Orthocladius* sp. Complex	-	-	-	-	-	-	-	X	-	-	X	-
Bryozoa	-	Stenolaemata	-	Cyclostomatida	Crisiidae	-	*Crisia* sp.	-	-	-	-	X	X	X	X	X	-	-	-
Bryozoa	-	Stenolaemata	-	Cyclostomatida	Crisiidae	-	Crisiidae indet.*	-	-	-	-	-	-	-	-	-	X	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Littorinimorpha	Naticidae	Naticinae	*Cryptonatica affinis*	-	-	X	X	X	X	-	-	X	-	X	X
Echinodermata	Asterozoa	Asteroidea	Ambuloasteroidea	Paxillosida	Ctenodiscidae	-	*Ctenodiscus crispatus*	-	-	-	-	-	-	-	-	-	-	X	-
Ctenophora	-	-	-	-	-	-	Ctenophora indet.	-	-	-	-	-	-	-	-	-	-	X	-
Bryozoa	-	Gymnolaemata	-	Ctenostomatida	-	-	Ctenostomatida indet.	-	-	-	-	X	X	-	-	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	-	-	Cumacea indet.	-	X	X	X	Y	X	-	X	-	-	X	-
Arthropoda	Crustacea	Hexapoda	Insecta	Coleoptera	Curculionidae	-	Curculionidae indet.	-	-	-	-	-	X	-	-	-	-	-	-
Mollusca	-	Bivalvia	Autobranchia	-	Cuspidariidae	-	*Cuspidaria arctica*	-	-	X	-	-	-	-	-	-	-	-	-
Mollusca	-	Bivalvia	Autobranchia	-	Cuspidariidae	-	*Cuspidaria* sp.	X	-	-	-	-	X	-	X	Y	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Bodotriidae	Bodotriinae	*Cyclaspis longicaudata*	X	-	-	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Hexanauplia	Copepoda	Cyclopoida	-	-	Cyclopoida indet.	-	-	-	-	X	X	X	X	X	X	-	-
XXXX	-	-	-	-	-	-	Cyclostomatida indet.	-	-	-	-	-	-	Y	-	-	-	X	-
Mollusca	-	Gastropoda	Heterobranchia	Cephalaspidea	Cylichnidae	-	*Cylichna alba*	X	-	X	X	-	X	X	X	X	-	X	-
Mollusca	-	Gastropoda	Heterobranchia	Cephalaspidea	Cylichnidae	-	*Cylichna gouldi*	-	-	X	X	-	-	-	-	-	-	-	-
Mollusca	-	Gastropoda	Heterobranchia	Cephalaspidea	Cylichnidae	-	*Cylichna* sp.	-	-	-	-	X	X	Y	X	Y	-	-	-
Mollusca	-	Gastropoda	Heterobranchia	Cephalaspidea	Cylichnidae	-	Cylichnidae indet.	-	-	-	-	Y	X	Y	X	Y	X	X	X
Mollusca	-	Gastropoda	Heterobranchia	Cephalaspidea	Cylichnidae	-	*Cylichnoides occultus*	X	-	-	-	X	X	X	X	-	-	-	X
Arthropoda	Crustacea	Ostracoda	Podocopa	Podocopida	Cytheridae	-	Cytheridae indet.	-	-	-	-	-	-	X	-	X	-	-	-
Mollusca	-	Bivalvia	Autobranchia	Mytilida	Mytilidae	Dacrydiinae	*Dacrydium vitreum*	X	-	-	-	-	X	-	X	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Deflexilodes* sp.	-	-	-	-	-	-	-	Y	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Deflexilodes tesselatus*	-	X	-	-	-	-	-	-	-	-	-	-
Porifera	-	Demospongiae	-	-	-	-	Demospongiae indet.	-	-	-	-	-	-	-	X	X	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Desmosomatidae	Desmosomatinae	*Desmosoma* sp.	-	X	-	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Desmosomatidae	-	Desmosomatidae indet.	-	-	-	-	X	-	-	X	Y	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dexaminidae	Dexamininae	*Dexamine* sp.	-	-	-	-	X	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Dialychone* sp.	-	-	-	-	X	X	X	X	-	-	X	X
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Dialychone* sp. 1	-	-	-	-	-	-	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Dialychone* sp. 3	-	-	-	-	-	-	-	Y	-	-	X	X
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Dialychone* sp. A	-	-	-	-	Y	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Dialychone* sp. B	-	-	-	-	X	X	-	-	-	-	-	-

Phylum	Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	2010	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Diamesinae	*Diamesa* sp.	-	-	-	-	-	-	-	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Diastylidae	-	Diastylidae indet.	-	-	-	-	Y	X	Y	-	Y	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Diastylidae	-	*Diastylis alaskensis*	-	-	-	-	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Diastylidae	-	*Diastylis bradyi*	-	-	-	-	X	X	-	X	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Diastylidae	-	*Diastylis echinata*	-	-	X	X	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Diastylidae	-	*Diastylis goodsiri*	X	-	X	-	X	X	X	X	X	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Diastylidae	-	*Diastylis lucifera*	-	-	X	-	X	X	-	X	X	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Diastylidae	-	*Diastylis rathkei*	X	X	X	-	X	X	X	X	X	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Diastylidae	-	*Diastylis scorpioIdes*	X	-	X	X	X	X	X	X	X	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Diastylidae	-	*Diastylis sculpta*	-	X	-	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Diastylidae	-	*Diastylis* sp.	-	X	-	X	Y	X	Y	X	X	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Diastylidae	-	*Diastylis spinulosa*	X	-	X	-	X	X	X	X	X	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Diastylidae	-	*Diastyloides biplicatus*	-	-	-	-	X	X	-	-	X	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Flabelligeridae	-	*Diplocirrus hirsutus*	-	-	X	X	-	X	X	X	X	X	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Flabelligeridae	-	*Diplocirrus* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Dipolydora caulleryi*	-	-	-	-	X	X	X	X	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Dipolydora concharum*	-	-	-	-	-	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Dipolydora quadrilobata*	-	-	-	-	X	X	X	X	X	X	X	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Dipolydora socialis*	-	-	-	-	-	X	X	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Dipolydora* sp.	-	-	-	-	Y	X	-	X	-	X	X	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	-	-	Diptera indet.	-	-	-	-	Y	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Errantia	Eunicida	Dorvilleidae	-	Dorvilleidae indet.	-	-	-	-	-	-	-	-	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dulichiidae	-	*Dulichia* sp.	-	-	-	-	-	-	-	X	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dulichiidae	-	Dulichiidae indet.	-	-	-	-	-	-	-	-	Y	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dulichiidae	-	*Dyopedos* sp.	-	-	-	-	X	X	-	X	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Chrysopetalidae	Dysponetinae	*Dysponetus* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Echiura	Echiuroidea	Echiuridae	-	*Echiurus echiurus*	-	X	X	-	X	X	-	X	-	-	X	-
Cnidaria	-	Anthozoa	Hexacorallia	Actiniaria	Edwardsiidae	-	Edwardsiidae indet.	-	-	-	-	-	-	X	X	-	-	X	-
Annelida	-	Clitellata	Oligochaeta	Enchytraeida	Enchytraeidae	-	Enchytraeidae indet.	X	-	-	-	X	X	X	X	X	X	X	-
Mollusca	-	Bivalvia	Protobranchia	Nuculida	Nuculidae	-	*Ennucula tenuis*	X	-	-	-	X	X	X	X	X	X	X	X
Hemichordata	-	Enteropneusta	-	-	-	-	Enteropneusta indet.	-	-	-	-	-	-	-	X	-	-	X	-
Entoprocta	-	-	-	-	-	-	Entoprocta indet.	-	-	-	-	-	-	-	X	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Sphaerodoridae	-	*Ephesiella* sp.	-	-	-	-	-	-	-	X	-	X	X	-
Mollusca	-	Gastropoda	Patellogastropoda	-	Lottiidae	-	*Erginus rubellus*	-	-	-	-	-	-	X	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	-	-	-	Errantia indet.	-	-	-	-	Y	-	-	-	-	-	-	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Escharellidae	-	*Escharella* sp.	-	-	-	-	-	-	X	X	X	X	X	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Exochellidae	-	*Escharoides* sp.	-	-	-	-	-	-	-	-	X	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Phyllodocidae	Eteoninae	*Eteone barbata*	X	-	-	-	X	X	X	-	-	-	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Phyllodocidae	Eteoninae	*Eteone flava*	-	-	-	-	X	X	X	X	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Phyllodocidae	Eteoninae	*Eteone longa* complex	-	X	X	X	X	X	X	X	X	X	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Phyllodocidae	Eteoninae	*Eteone* sp.	X	X	X	X	Y	X	Y	X	Y	X	X	X
Annelida	-	Polychaeta	Errantia	Phyllodocida	Phyllodocidae	Eteoninae	*Eteone spilotus*	-	-	-	-	-	X		-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Euchone analis*	-	-	-	-	-	-	X	X	-	X	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Euchone incolor*	-	X	-	-	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Euchone papillosa*	X	-	-	-	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Euchone rubrocincta*	-	-	-	-	X	X	X	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Euchone* sp.	-	-	X	X	-	X	Y	X	Y	X	X	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Euchone* sp. 1	-	-	-	-	-	-	-	Y	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Euclymeninae	*Euclymene* sp.	-	-	-	-	X	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Euclymeninae	Euclymeninae indet.	-	-	-	-	Y	X	Y	X	Y	X	X	X
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Eucrateidae	-	*Eucratea* sp.	-	-	-	-	-	-	-	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Leuconidae	-	*Eudorella emarginata*	-	-	X	X	-	-	X	X	X	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Leuconidae	-	*Eudorella* sp.	X	-	X	X	Y	-	Y	X	Y	-	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Leuconidae	-	*Eudorella truncatula*	-	-	X	X	X	X	X	X	X	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Leuconidae	-	*Eudorellopsis* sp.	X	-	-	-	-	-	-	-	-	-	-	-

Phylum	Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	2010	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Desmosomatidae	Desmosomatinae	*Eugerda* sp.	X	-	-	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Orthocladiinae	*Eukiefferiella* sp.	-	-	-	-	-	-	-	X	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Phyllodocidae	Eteoninae	*Eulalia bilineata*	-	-	-	-	-	-	-	X	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Phyllodocidae	Eteoninae	*Eulalia* sp.	-	-	-	-	-	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Phyllodocidae	Eteoninae	*Eumida* sp.	-	-	-	-	-	-	X	-	-	-	-	-
Echinodermata	Echinozoa	Holothuroidea	Actinopoda	Molpadida	Eupyrgidae	-	*Eupyrgus scaber*	-	-	-	-	-	-	X	X	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Munnopsidae	Eurycopinae	*Eurycope* sp.	-	-	-	-	-	X	-	-	-	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Littorinimorpha	Naticidae	Naticinae	*Euspira pallida*	X	-	-	-	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Errantia	Phyllodocida	Syllidae	Eusyllinae	Eusyllinae indet.	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Syllidae	Eusyllinae	*Eusyllis* sp.	-	-	-	-	-	X	-	-	-	-	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Syllidae	Exogoninae	*Exogone naidina*	-	-	-	-	-	-	X	X	X	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Syllidae	Exogoninae	*Exogone* sp.	-	X	-	-	X	X	-	-	-	X	X	X
Annelida	-	Polychaeta	Errantia	Phyllodocida	Syllidae	Exogoninae	*Exogone verugera*	X	X	-	-	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Fabriciidae	-	Fabriciidae indet.	-	-	-	-	X	-	Y	X	Y	X	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Flabelligeridae	-	*Flabelligera affinis*	-	-	-	X	-	-	X	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Flabelligeridae	-	Flabelligeridae indet.	-	-	X	-	-	-	-	-	-	-	-	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	-	-	Flustrina indet.	-	-	-	-	-	-	-	-	-	-	X	-
Mollusca	-	Scaphopoda	-	Gadilida	Gadilidae	-	Gadilidae indet.	-	-	-	-	-	-	Y	X	-	-	-	-
Annelida	-	Polychaeta	Polychaeta incertae sedis	-	Oweniidae	-	*Galathowenia oculata*	-	-	X	-	X	X	X	X	X	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	-	*Gammarus oceanicus*	-	X	-	-	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	-	*Gammarus setosus*	-	-	-	X	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	-	*Gammarus* sp.	-	X	X	X	-	X	-	-	-	-	-	-
Mollusca	-	Gastropoda	-	-	-	-	Gastropoda indet.	-	-	X	-	Y	X	Y	X	Y	X	X	X
Mollusca	-	Gastropoda	-	-	-	-	Gastropoda sp. A	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Gattyana cirrhosa*	X	X	X	-	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Errantia	Phyllodocida	Glyceridae	-	*Glycera capitata*	-	-	-	-	X	X	X	-	-	-	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Glyceridae	-	*Glycera* sp.	-	-	-	-	Y	X	Y	X	Y	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Gnathiidae	-	*Gnathia maxillaris*	-	-	-	X	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Gnathiidae	-	*Gnathia* sp.	X	X	-	-	X	-	Y	X	Y	X	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Gnathiidae	-	Gnathiidae indet.	-	-	-	-	Y	X	Y	X	-	-	X	X
Sipuncula	-	Sipunculidea	-	Golfingiida	Golfingiidae	-	*Golfingia* sp.	-	-	-	-	X	X	X	X	X	-	X	-
Sipuncula	-	Sipunculidea	-	Golfingiida	Golfingiidae	-	Golfingiidae indet.	-	-	-	-	-	-	Y	X	Y	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Tryphosidae	-	*Gronella groenlandica*	-	X	-	X	X	X	-	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dexaminidae	Prophliantinae	*Guernea nordenskioldi*	X	X	X	X	X	X	X	X	X	X	X	X
Chordata	Vertebrata	Teleostei	-	Perciformes	Zoarcidae	Gymnelinae	*Gymnelus* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Bryozoa	-	Gymnolaemata	-	-	-	-	Gymnolaemata indet.	-	-	-	-	-	-	Y	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Hesionidae	Ophiodrominae	*Gyptis* sp.	-	-	-	-	-	X	-	-	-	-	-	-
Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Halacaridae	-	Halacaridae indet.	-	-	-	-	X	X	X	X	-	-	X	-
Cnidaria	-	Anthozoa	Hexacorallia	Actiniaria	Halcampidae	-	*Halcampa* sp.	-	-	-	-	-	-	-	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ampeliscidae	-	*Haploops* sp.	-	-	X	X	-	-	-	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ampeliscidae	-	*Haploops tubicola*	X	X	-	X	X	X	X	X	X	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Stenothoidae	-	*Hardametopa nasuta*	-	-	-	-	X	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Harmothoe extenuata*	-	X	X	X	X	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Harmothoe fragilis*	-	X	-	-	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Harmothoe imbricata*	X	X	X	X	X	X	X	X	X	X	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Harmothoe propinqua*	-	-	-	-	-	-	-	X	-	X	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Harmothoe rarispina*	-	-	-	-	-	-	X	X	X	X	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Harmothoe* sp.	X	X	X	X	Y	X	Y	X	Y	X	X	X
Arthropoda	Crustacea	Hexanauplia	Copepoda	Harpacticoida	-	-	Harpacticoida indet.	X	X	-	X	X	X	X	X	X	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Phoxocephalidae	Harpiniinae	*Harpinia serrata*	X	-	X	X	X	X	-	X	X	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Phoxocephalidae	Harpiniinae	*Harpinia* sp.	-	-	X	X	Y	X	X	-	-	X	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Hartmania moorei*	-	-	-	-	X	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Hartmania* sp.	-	X	-	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Lampropidae	-	*Hemilamprops cristatus*	-	-	-	-	X	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Hesionidae	-	Hesionidae indet.	-	-	-	-	Y	-	Y	-	Y	-	-	-

Phylum	Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	2010	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Hesperonoe* sp.	-	-	-	-	-	-	-	X	-	X	X	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Euclymeninae	*Heteroclymene robusta*	-	-	X	-	-	-	-	-	-	-	-	-
Nemertea	-	Pilidiophora	-	Heteronemertea	-	-	Heteronemertea indet.	-	-	-	-	-	-	Y	-	Y	X	-	X
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Orthocladiinae	*Heterotrissocladius* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Mollusca	-	Bivalvia	Autobranchia	Adapedonta	Hiatellidae	-	*Hiatella arctica*	X	X	X	X	X	X	X	X	X	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Tryphosidae	-	*Hippomedon denticulatus*	-	-	X	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Tryphosidae	-	*Hippomedon propinqvus*	-	-	-	-	-	-	-	-	X	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Tryphosidae	-	*Hippomedon serratus*	-	-	-	X	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Tryphosidae	-	*Hippomedon* sp.	-	-	-	-	-	-	Y	X	-	-	-	-
Annelida	-	Clitellata	Hirudinea	-	-	-	Hirudinea indet.	-	-	-	-	-	-	Y	-	-	X	-	X
Echinodermata	Echinozoa	Holothuroidea	-	-	-	-	Holothuroidea indet.*	-	-	-	-	-	-	-	-	-	X	-	-
Echinodermata	Echinozoa	Holothuroidea	-	-	-	-	Holothuroidea sp. A	-	-	-	-	X	X	-	-	-	-	-	-
Nemertea	-	Hoplonemertea	-	-	-	-	Hoplonemertea indet.	-	-	-	-	-	-	Y	X	Y	-	X	X
Cnidaria	-	Anthozoa	Hexacorallia	Actiniaria	Hormathiidae	-	*Hormathia digitata*	-	-	-	-	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Orthocladiinae	*Hydrosmittia* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Cnidaria	-	Hydrozoa	-	-	-	-	Hydrozoa indet.	-	-	-	-	Y	-	Y	X	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Phyllodocidae	Eteoninae	*Hypereteone* sp.	-	-	-	-	X	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Hypsicomus* sp.	-	-	-	-	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Hexapoda	Insecta	-	-	-	Insecta indet.	-	-	-	-	-	-	-	-	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Isaeidae	-	Isaeidae indet.	-	-	-	-	-	-	-	-	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ischyroceridae	-	Ischyroceridae indet.	X	-	-	-	-	-	-	X	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ischyroceridae	Ischyrocerinae	*Ischyrocerus anguipes*	-	X	X	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ischyroceridae	Ischyrocerinae	*Ischyrocerus* sp.	-	-	X	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	-	-	Isopoda indet.	-	-	-	-	-	-	-	Y	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	-	-	Isopoda sp. A	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Cirratulidae	-	*Kirkegaardia* sp.	-	-	-	-	-	X	-	X	X	-	-	X
Cnidaria	-	Hydrozoa	Hydroidolina	Leptothecata	Lafoeidae	-	*Lafoea* sp.	-	-	-	-	-	-	X	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Lampropidae	-	Lampropidae indet.	-	-	X	-	Y	X	-	-	-	-	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Lampropidae	-	*Lamprops fuscatus*	X	X	X	X	X	X	X	X	X	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Lampropidae	-	*Lamprops* sp.	-	-	X	X	-	-	-	X	-	X	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	Terebellinae	*Lanassa* sp.	-	-	-	-	-	-	Y	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	Terebellinae	*Lanassa venusta venusta*	-	-	-	-	X	X	X	X	X	X	X	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Laonice cirrata*	-	-	-	-	-	X	X	X	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	Terebellinae	*Laphania boecki*	-	-	-	X	X	X	X	X	X	X	X	X
Mollusca	-	Bivalvia	-	Galeommatida	Lasaeidae	-	Lasaeidae indet.	-	-	-	-	-	-	-	-	X	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	Terebellinae	*Leaena ebranchiata*	-	-	-	-	X	X	X	X	X	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Thoridae	-	*Lebbeus polaris*	X	-	-	-	-	X	X	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Thoridae	-	*Lebbeus* sp.	-	-	-	-	-	-	Y	-	-	-	-	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Myriaporidae	-	*Leieschara* sp.	-	-	-	-	-	X	-	X	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	-	Orbiniidae	Orbiniinae	*Leitoscoloplos acutus*	-	X	X	X	X	X	X	-	-	-	X	X
Annelida	-	Polychaeta	Sedentaria	-	Orbiniidae	Orbiniinae	*Leitoscoloplos* sp.	X	-	-	-	X	X	-	X	Y	X	X	X
Mollusca	-	Gastropoda	Patellogastropoda	-	Lepetidae	-	*Lepeta caeca*	X	X	X	X	X	X	X	X	X	X	X	-
Cnidaria	-	Hydrozoa	Hydroidolina	Leptothecata	-	-	Leptothecata indet.	-	-	-	-	-	-	-	Y	Y	X	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Leuconidae	-	*Leucon nasica*	-	-	-	-	-	-	X	X	X	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Leuconidae	-	*Leucon nasicoides*	X	X	X	X	X	-	X	X	X	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Leuconidae	-	*Leucon* sp.	-	-	X	-	Y	X	Y	X	Y	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Leuconidae	-	Leuconidae indet.	-	-	-	-	Y	X	Y	-	Y	X	-	-
Mollusca	-	Bivalvia	Autobranchia	Cardiida	Tellinidae	Macominae	*Limecola balthica*	-	-	X	X	X	X	X	-	-	-	-	-
Nemertea	-	Pilidiophora	-	Heteronemertea	Lineidae	-	Lineidae indet.	-	-	-	-	-	-	Y	X	Y	X	X	X
Nemertea	-	Pilidiophora	-	Heteronemertea	Lineidae	-	*Lineus* sp.	-	-	-	-	-	-	X	X	-	-	-	-
Mollusca	-	Gastropoda	Patellogastropoda	-	Lottiidae	-	Lottiidae indet.	-	-	-	-	X	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Eunicida	Lumbrineridae	-	Lumbrineridae indet.	-	-	-	-	-	-	Y	X	Y	X	X	X
Annelida	-	Polychaeta	Errantia	Eunicida	Lumbrineridae	-	*Lumbrineris fauchaldi*	-	-	-	-	-	-	-	-	X	-	X	-
Annelida	-	Polychaeta	Errantia	Eunicida	Lumbrineridae	-	*Lumbrineris* sp.	X	X	X	X	-	X	-	-	-	-	-	-
Mollusca	-	Bivalvia	Autobranchia	-	Lyonsiidae	-	*Lyonsia arenosa*	-	-	-	-	X	X	X	-	X	-	-	-

Phylum	Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	2010	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Lysianassidae	-	Lysianassidae indet.	X	-	X	-	Y	-	Y	-	Y	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Lysianassidae	-	Lysianassoidea indet.	-	-	-	-	Y	X	Y	X	X	X	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	Ampharetinae	*Lysippe labiata*	-	-	X	X	X	X	X	X	-	X	X	X
Mollusca	-	Bivalvia	Autobranchia	Cardiida	Tellinidae	Macominae	*Macoma calcarea*	X	X	X	X	X	X	X	X	X	X	X	X
Mollusca	-	Bivalvia	Autobranchia	Cardiida	Tellinidae	Macominae	*Macoma moesta*	-	-	-	-	X	X	X	X	X	X	X	X
Mollusca	-	Bivalvia	Autobranchia	Cardiida	Tellinidae	Macominae	*Macoma* sp.	-	-	-	-	Y	X	-	-	Y	-	X	-
Mollusca	-	Bivalvia	Autobranchia	Cardiida	Tellinidae	Macominae	Macominae indet.	-	-	-	-	-	-	Y	Y	Y	X	X	X
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Maldaninae	*Maldane sarsi*	X	X	X	X	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	-	Maldanidae indet.	X	X	X	X	Y	X	Y	Y	Y	X	-	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	-	Maldanidae sp. A	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	-	Maldanidae sp. B	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	-	Maldanidae sp. C	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Fabriciidae	-	*Manayunkia aesturiana*	-	-	-	-	-	X	-	-	-	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Neogastropoda	Mangeliidae	-	Mangeliidae indet.	-	-	-	-	-	-	Y	X	Y	X	X	X
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Marenzelleria* sp.	-	-	-	X	X	X	-	-	Y	X	X	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Marenzelleria viridis*	-	-	-	-	-	-	X	X	-	-	-	-
Mollusca	-	Gastropoda	Vetigastropoda	Trochida	Margaritidae	-	*Margarites groenlandicus*	-	X	X	X	X	X	X	-	X	-	X	-
Mollusca	-	Gastropoda	Vetigastropoda	Trochida	Margaritidae	-	*Margarites helicinus*	-	-	-	-	X	X	X	X	-	-	X	-
Mollusca	-	Gastropoda	Vetigastropoda	Trochida	Margaritidae	-	*Margarites olivaceus*	X	-	-	-	-	X	-	X	-	-	-	-
Mollusca	-	Gastropoda	Vetigastropoda	Trochida	Margaritidae	-	*Margarites* sp.	-	-	-	-	Y	X	Y	Y	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Capitellidae	-	*Mediomastus ambiseta*	-	X	-	X	X	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Capitellidae	-	*Mediomastus* sp.	X	-	-	-	Y	X	Y	X	Y	X	X	X
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Melaenis loveni*	-	-	-	-	-	X	-	X	-	X	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Melinnidae	-	*Melinna elisabethae*	X	X	X	X	X	X	X	X	X	X	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Melinnidae	-	*Melinna* sp.	X	-	-	-	-	X	-	-	-	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melphidippidae	-	*Melphidippa* sp.	-	-	-	-	-	-	-	X	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Melinnidae	-	*Melinna* sp.	X	-	-	-	-	X	-	-	-	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melphidippidae	-	*Melphidippa* sp.	-	-	-	-	-	-	-	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Menigrates obtusifrons*	-	-	-	-	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Stenothoidae	-	*Metopa* sp.	-	X	-	-	-	-	X	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Euclymeninae	*Microclymene* sp.	-	-	-	-	X	X	X	X	X	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Nephtyidae	-	*Micronephthys cornuta*	-	-	-	-	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Errantia	Phyllodocida	Microphthalmidae	-	*Microphthalmus* sp.	-	-	-	-	-	X	-	X	-	-	X	X
Mollusca	-	Gastropoda	Vetigastropoda	Trochida	Colloniidae	Moelleriinae	*Moelleria costulata*	-	-	-	-	X	X	-	X	-	-	-	-
Chordata	Tunicata	Ascidiacea	-	Stolidobranchia	Molgulidae	-	*Molgula* sp.	-	X	-	-	-	X	X	-	-	-	-	-
Echinodermata	Echinozoa	Holothuroidea	Actinopoda	Molpadida	-	-	Molpadida indet.	-	-	-	-	X	X	-	-	-	-	-	-
Cnidaria	-	Hydrozoa	Trachylinae	Limnomedusae	Monobrachiidae	-	*Monobrachium parasitum*	-	-	-	-	X	X	X	X	X	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiinae	*Monocorophium insidiosum*	-	X	-	-	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiinae	*Monocorophium* sp.	-	-	-	-	Y	X	Y	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Monoculodes latimanus*	-	X	-	-	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Monoculodes* sp.	X	X	X	X	Y	X	Y	X	Y	-	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Monoculopsis longicornis*	-	X	-	X	X	-	X	-	X	-	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Monoculopsis* sp.	-	-	-	-	-	-	Y	X	Y	X	-	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Pontoporeiidae	-	*Monoporeia affinis*	X	X	X	X	X	X	X	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Pontoporeiidae	-	*Monoporeia sp.* *	-	-	-	-	-	-	-	-	-	X	-	-
Mollusca	-	Bivalvia	Autobranchia	Mytilida	Mytilidae	Musculinae	*Musculus discors*	X	X	X	X	X	X	X	X	X	X	X	X
Mollusca	-	Bivalvia	Autobranchia	Mytilida	Mytilidae	Musculinae	*Musculus niger*	-	X	-	-	X	-	X	X	-	X	-	-
Mollusca	-	Bivalvia	Autobranchia	Mytilida	Mytilidae	Musculinae	*Musculus* sp.	X	-	-	-	Y	-	Y	X	Y	X	X	-
Mollusca	-	Bivalvia	Autobranchia	Myida	Myidae	-	*Mya arenaria*	-	-	X	X	-	-	-	-	-	-	-	-
Mollusca	-	Bivalvia	Autobranchia	Myida	Myidae	-	*Mya* sp.	-	-	-	-	Y	X	Y	Y	Y	X	X	X
Mollusca	-	Bivalvia	Autobranchia	Myida	Myidae	-	*Mya truncata*	X	X	X	X	X	X	X	X	X	X	X	X
Arthropoda	Crustacea	Ostracoda	Myodocopa	-	-	-	Myodocopa indet.	X	X	X	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	-	Phyllodocida	Syllidae	Autolytinae	*Myrianida* sp.*	-	-	-	-	-	-	-	-	-	X	-	-
Annelida	-	Polychaeta	Polychaeta incertae sedis	-	Oweniidae	-	*Myriochele danielsseni*	-	-	-	-	X	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Polychaeta incertae sedis	-	Oweniidae	-	*Myriochele heeri*	-	-	-	-	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Polychaeta incertae sedis	-	Oweniidae	-	*Myriochele* sp.	-	-	-	-	Y	-	-	-	Y	X	X	-
Echinodermata	Echinozoa	Holothuroidea	Paractinopoda	Apodida	Myriotrochidae	-	*Myriotrochus rinkii*	-	-	-	X	-	-	X	X	X	X	X	X

Phylum	Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	2010	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	-	Mysida indet.	-	-	-	-	Y	-	-	-	-	-	-	-
Annelida	-	Clitellata	Hirudinea	Rhynchobdellida	Piscicolidae	Platybdellinae	*Mysidobdella* sp.	-	-	-	-	X	-	-	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Mysinae	*Mysis mixta*	-	X	-	X	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Mysinae	*Mysis* sp.	-	X	-	-	-	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Phyllodocidae	Eteoninae	*Mystides borealis*	-	-	-	-	-	-	-	-	-	-	X	-
Mollusca	-	Bivalvia	Autobranchia	Mytilida	Mytilidae	-	Mytilidae indet.	X	-	-	-	Y	X	Y	Y	Y	-	X	-
Mollusca	-	Bivalvia	Autobranchia	Mytilida	Mytilidae	Mytilinae	*Mytilus edulis*	-	X	-	-	-	-	-	-	-	-	-	-
Mollusca	-	Bivalvia	Autobranchia	Mytilida	Mytilidae	Mytilinae	*Mytilus* sp.	-	-	-	-	X	-	-	-	-	-	-	-
Annelida	-	Clitellata	Oligochaeta	Tubificida	Naididae	-	Naididae indet.	-	-	-	-	-	-	-	-	X	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Nannastacidae	-	Nannastacidae indet.	-	-	-	-	-	-	-	Y	-	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Littorinimorpha	Naticidae	-	*Naticidae (juvenile)*	-	-	X	-	-	-	-	-	-	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Littorinimorpha	Naticidae	-	Naticidae indet.	-	-	-	-	-	-	Y	X	Y	-	X	-
Arthropoda	Crustacea	Malacostraca	Phyllocarida	Nebaliacea	Nebaliidae	-	*Nebalia* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Nematoda	-	-	-	-	-	-	Nematoda indet.	-	-	-	-	-	-	-	X	-	-	X	X
Nemertea	-	-	-	-	-	-	Nemertea indet.	-	X	X	X	Y	X	Y	X	Y	X	X	X
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	Terebellinae	*Neoamphitrite affinis*	-	-	-	-	X	X	X	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	*Neobylgides* sp.	-	-	-	X	-	-	-	-	-	-	-	-
Sipuncula	-	Sipunculidea	-	Golfingiida	Golfingiidae	-	*Nephasoma* sp.	-	-	-	-	X	-	X	X	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Nephtyidae	-	*Nephtys bucera*	-	-	-	-	-	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Nephtyidae	-	*Nephtys ciliata*	X	-	X	X	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Errantia	Phyllodocida	Nephtyidae	-	*Nephtys paradoxa*	-	-	-	-	-	-	X	X	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Nephtyidae	-	*Nephtys* sp.	X	X	X	X	-	X	Y	Y	Y	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Nereididae	-	Nereididae indet.	X	-	-	-	Y	X	Y	X	-	-	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Hesionidae	Psamathinae	Nereimyra aphroditoides	-	-	-	X	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Errantia	Phyllodocida	Nereididae	Nereidinae	*Nereis* sp.	-	-	-	X	Y	-	Y	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Nereididae	Nereidinae	*Nereis zonata*	-	X	X	X	X	X	X	X	X	X	X	X
Nemertea	-	Nemertea incertae sedis	-	-	-	-	Nermertea incertae sedis indet. (Anopla)	-	-	-	-	Y	X	-	-	-	-	-	-
Nemertea	-	Nemertea incertae sedis	-	-	-	-	Nermertea incertae sedis indet. (Enopla)	-	-	-	-	Y	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	Terebellinae	*Nicolea venustula*	-	X	-	-	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Nicomachinae	*Nicomache lumbricalis*	-	-	X	X	X	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Nicomachinae	*Nicomache* sp.	-	-	-	-	-	X	Y	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Nicomachinae	Nicomachinae indet.	-	-	-	-	-	-	Y	X	-	X	X	-
Annelida	-	Polychaeta	Errantia	Eunicida	Onuphidae	Hyalinoeciinae	*Nothria conchylega*	X	-	-	-	-	X	X	X	X	X	X	-
Annelida	-	Polychaeta	Sedentaria	-	Capitellidae	-	*Notomastus latericeus*	-	-	-	-	X	X	X	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Capitellidae	-	*Notomastus* sp.	-	-	-	-	-	-	-	Y	Y	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Atylidae	Nototropiinae	*Nototropis* sp.	-	-	X	-	-	-	-	-	-	-	-	-
Mollusca	-	Bivalvia	Protobranchia	Nuculida	Nuculidae	-	*Nucula* sp.	-	-	X	-	-	-	-	-	-	-	-	-
Mollusca	-	Bivalvia	Protobranchia	Nuculanida	Nuculanidae	Nuculaninae	*Nuculana minuta*	-	X	X	X	X	X	X	X	X	X	X	X
Mollusca	-	Bivalvia	Protobranchia	Nuculanida	Nuculanidae	Nuculaninae	*Nuculana pernula*	X	X	X	X	X	X	X	X	X	X	X	X
Mollusca	-	Bivalvia	Protobranchia	Nuculanida	Nuculanidae	Nuculaninae	*Nuculana* sp.	-	-	X	-	Y	X	Y	Y	Y	X	X	-
Mollusca	-	Bivalvia	Protobranchia	Nuculanida	-	-	Nuculanida indet.	-	-	-	-	-	-	Y	-	-	-	-	-
Mollusca	-	Bivalvia	Protobranchia	Nuculanida	Nuculanidae	-	Nuculanidae indet.	-	-	-	-	-	-	-	-	-	-	X	-
Mollusca	-	Bivalvia	Protobranchia	Nuculanida	-	-	Nuculanoidea indet.	-	-	-	-	Y	X	-	X	Y	X	X	-
Arthropoda	Chelicerata	Pycnogonida	-	Pantopoda	Nymphonidae	-	*Nymphon hirtipes*	-	-	-	-	-	-	X	X	-	-	-	-
Arthropoda	Chelicerata	Pycnogonida	-	Pantopoda	Nymphonidae	-	*Nymphon* sp.	-	-	-	-	X	X	-	X	Y	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Oediceros borealis*	-	X	X	X	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	Oedicerotidae indet.	X	X	X	X	Y	X	Y	X	Y	X	X	X
Mollusca	-	Gastropoda	Caenogastropoda	Neogastropoda	Mangeliidae	-	*Oenopota* sp.	-	-	-	X	-	X	-	-	-	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Neogastropoda	Mangeliidae	-	*Oenopota violacea*	-	X	X	X	-	-	-	-	-	-	-	-
Annelida	-	Clitellata	Oligochaeta	-	-	-	Oligochaete indet.	-	X	-	-	-	-	-	-	-	-	-	-
Bryozoa	-	Stenolaemata	-	Cyclostomatida	Oncousoeciidae	-	*Oncousoecia* sp.	-	-	-	-	-	-	X	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Onisimus barentsi Group*	-	-	-	-	X	X	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Onisimus brevicaudatus*	-	-	-	-	-	X	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Onisimus litoralis*	-	-	X	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Onisimus normani*	-	-	X	-	-	-	-	-	-	-	-	-

Phylum	Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	2010	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Onisimus plautus*	-	-	-	X	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Onisimus* sp.	X	-	-	-	Y	X	Y	Y	-	X	X	-
Annelida	-	Polychaeta	Sedentaria	-	Opheliidae	Opheliinae	*Ophelia limacina*	X	X	X	X	X	-	X	-	-	-	X	X
Annelida	-	Polychaeta	Sedentaria	-	Opheliidae	Opheliinae	*Ophelia* sp.	-	-	-	-	-	-	-	-	Y	X	-	-
Annelida	-	Polychaeta	Sedentaria	-	Opheliidae	-	Opheliidae indet.	X	-	-	-	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Opheliidae	Ophelininae	*Ophelina acuminata*	X	-	X	X	X	X	X	X	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	-	Opheliidae	Ophelininae	*Ophelina cylindricaudata*	-	-	-	-	-	X	X	X	-	X	X	-
Annelida	-	Polychaeta	Sedentaria	-	Opheliidae	Ophelininae	*Ophelina* sp.	-	-	-	-	Y	X	Y	Y	Y	-	-	-
Echinodermata	Asterozoa	Ophiuroidea	Myophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	*Ophiocten affinis*	-	-	-	-	-	X	X	X	X	X	-	X
Echinodermata	Asterozoa	Ophiuroidea	Myophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	*Ophiocten sericeum*	X	X	-	-	-	-	-	-	-	-	X	-
Echinodermata	Asterozoa	Ophiuroidea	Myophiuroidea	Ophiurida	Ophiopyrgidae	-	*Ophiopleura borealis*	-	-	-	-	-	-	X	X	-	-	X	-
Echinodermata	Asterozoa	Ophiuroidea	Myophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	*Ophiura robusta*	X	-	X	X	X	X	X	X	X	X	X	X
Echinodermata	Asterozoa	Ophiuroidea	Myophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	*Ophiura sarsii*	X	X	X	X	X	X	X	X	X	X	X	X
Echinodermata	Asterozoa	Ophiuroidea	Myophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	*Ophiura* sp.	-	-	X	-	Y	-	Y	Y	Y	X	X	X
Echinodermata	Asterozoa	Ophiuroidea	Myophiuroidea	Ophiurida	Ophiuridae	-	Ophiuridae indet.	-	-	-	-	-	-	Y	Y	Y	X	-	-
Echinodermata	Asterozoa	Ophiuroidea	-	-	-	-	Ophiuroidea indet.	-	-	X	-	-	-	Y	Y	Y	X	X	-
Annelida	-	Polychaeta	Errantia	Eunicida	Dorvilleidae	-	*Ophryotrocha* sp.	-	-	-	-	-	-	-	X	-	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Opisidae	-	*Opisa eschrichti*	-	-	-	X	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Opisidae	-	*Opisa* sp.	-	-	-	-	-	-	-	-	Y	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Orbiniidae	-	Orbiniidae indet.	-	-	-	-	Y	X	Y	X	-	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Tryphosidae	-	*Orchomene macroserratus*	X	-	-	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Tryphosidae	-	*Orchomene* sp.	-	-	-	-	X	X	Y	Y	Y	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Tryphosidae	-	*Orchomenella minuta*	-	X	-	X	-	X	X	X	X	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Tryphosidae	-	*Orchomenella pinguis*	-	-	-	X	X	X	-	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Tryphosidae	-	*Orchomenella* sp.	-	X	-	X	-	-	Y	Y	-	-	-	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Orthocladiinae	Orthocladiinae indet.	X	-	-	-	X	X	-	X	-	-	X	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Orthocladiinae	Orthocladiinae indet.	X	-	-	-	X	X	-	X	-	-	X	-
Arthropoda	Crustacea	Ostracoda	-	-	-	-	Ostracoda indet.	-	-	-	-	Y	-	-	Y	-	-	X	X
Annelida	-	Polychaeta	Polychaeta incertae sedis	-	Oweniidae	-	*Owenia fusiformis*	X	X	X	X	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Polychaeta incertae sedis	-	Oweniidae	-	*Owenia* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Polychaeta incertae sedis	-	Oweniidae	-	Oweniidae indet.	-	-	X	X	-	X	Y	-	Y	X	-	-
Nemertea	-	Palaeonemertea	-	-	-	-	Palaeonemertea indet.*	-	-	-	-	-	-	-	-	-	X	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Paradialychone harrisae*	-	-	-	-	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Orthocladiinae	*Parakiefferiella* sp. A	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	Terebellinae	*Paramphitrite birulai*	-	-	-	-	-	-	-	X	X	-	X	X
Annelida	-	Polychaeta	Sedentaria	-	Paraonidae	-	Paraonidae indet.	-	X	X	X	Y	X	Y	Y	-	X	-	-
Annelida	-	Polychaeta	Sedentaria	-	Paraonidae	-	*Paraonides* sp.	-	-	-	-	-	-	-	X	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	-	Paraonidae	-	*Paraonis* sp.	X	-	-	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Chironominae	*Paratanytarsus* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Cnidaria	-	Anthozoa	Hexacorallia	Zoantharia	Parazoanthidae	-	*Parazoanthus* sp.	-	-	-	-	X	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Syllidae	Exogoninae	*Parexogone hebes*	-	X	-	-	-	X	X	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Paroediceros lynceus*	X	X	X	X	X	X	X	X	X	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Paroediceros* sp.	-	X	-	-	-	-	-	Y	-	-	X	-
Annelida	-	Polychaeta	Errantia	Eunicida	Dorvilleidae	-	*Parougia caeca*	-	-	-	-	-	X	X	X	-	X	X	-
Mollusca	-	Gastropoda	Patellogastropoda	-	-	-	Patellogastropoda indet.	-	X	X	-	Y	-	-	X	Y	X	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Pectinariidae	-	*Pectinaria* sp.	X	X	-	-	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Pectinariidae	-	Pectinariidae indet.	-	-	-	-	-	-	-	-	-	-	X	-
Mollusca	-	Bivalvia	Autobranchia	Pectinida	Pectinidae	-	Pectinidae indet.	-	-	-	-	Y	X	-	X	-	-	-	-
Mollusca	-	Bivalvia	Autobranchia	Pectinida	-	-	Pectinoidea indet.	-	-	-	-	Y	-	-	-	Y	X	X	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Tanypodinae	Pentaneurini indet.	-	-	-	-	-	-	-	-	-	-	X	-
Mollusca	-	Bivalvia	Autobranchia	-	Periplomatidae	-	*Periploma aleuticum*	X	-	-	-	X	X	X	X	X	X	X	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Nicomachinae	*Petaloproctus* sp.	-	-	-	-	-	-	Y	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Nicomachinae	*Petaloproctus tenuis*	-	-	-	-	-	-	X	X	-	X	X	-
Mollusca	-	Gastropoda	Heterobranchia	Cephalaspidea	Philinidae	Philininae	Philininae indet.	-	-	-	-	-	-	X	X	-	X	X	-
Arthropoda	Crustacea	Ostracoda	Myodocopa	Myodocopida	Philomedidae	Philomedinae	*Philomedes* sp.	-	-	-	-	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Errantia	Phyllodocida	Pholoidae	-	*Pholoe longa*	X	X	-	-	-	-	X	X	X	X	X	X

Phylum	Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	2010	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Annelida	-	Polychaeta	Errantia	Phyllodocida	Pholoidae	-	*Pholoe minuta*	-	-	X	X	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Errantia	Phyllodocida	Pholoidae	-	*Pholoe* sp.	X	X	X	X	Y	X	Y	Y	Y	X	X	X
Annelida	-	Polychaeta	Errantia	Phyllodocida	Pholoidae	-	*Pholoe tecta*	X	X	X	X	X	X	X	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Phoxocephalidae	-	Phoxocephalidae indet.*	-	-	-	-	-	-	-	-	-	X	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Phoxocephalidae	Phoxocephalinae	*Phoxocephalus holbolli*	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Phyllodocidae	Phyllodocinae	*Phyllodoce groenlandica*	X	-	X	X	X	X	X	X	X	-	X	X
Annelida	-	Polychaeta	Errantia	Phyllodocida	Phyllodocidae	Phyllodocinae	*Phyllodoce mucosa*	-	-	X	X	X	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Phyllodocidae	Phyllodocinae	*Phyllodoce* sp.	-	-	-	-	Y	X	Y	-	Y	X	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Phyllodocidae	-	Phyllodocidae indet.	-	-	X	X	Y	-	-	-	Y	-	X	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Serpulidae	Spirorbinae	*Pileolaria* sp.	-	-	-	-	X	X	-	-	X	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Syllidae	Eusyllinae	*Pionosyllis compacta*	-	-	-	-	-	-	X	X	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Syllidae	Eusyllinae	*Pionosyllis* sp.	-	-	-	-	-	X	-	Y	Y	-	X	-
Chordata	Vertebrata	-	-	-	-	-	Pisces indet.	-	-	-	-	X	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	Terebellinae	*Pista cristata*	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	Terebellinae	*Pista maculata*	X	X	X	X	X	X	X	X	X	X	X	X
Platyhelminthes	-	-	-	-	-	-	Platyhelminthes indet.	-	-	-	-	X	X	-	-	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Paramunnidae	-	*Pleurogonium rubicundum*	-	-	-	-	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Paramunnidae	-	*Pleurogonium* sp.	-	-	-	-	Y	-	-	-	-	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Paramunnidae	-	*Pleurogonium spinosissimum*	X	-	-	-	X	X	-	-	X	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Podoceridae	-	Podoceridae indet.	-	-	-	-	-	-	-	X	-	-	X	-
Arthropoda	Crustacea	Ostracoda	Podocopa	Podocopida	-	-	Podocopida indet.	-	-	-	-	-	-	-	-	-	-	X	-
Chordata	Tunicata	Ascidiacea	-	Stolidobranchia	Styelidae	-	*Polycarpa fibrosa*	-	-	-	-	X	X	-	X	-	X	X	-
Chordata	Tunicata	Ascidiacea	-	Stolidobranchia	Styelidae	-	*Polycarpa* sp.	-	-	-	-	-	-	Y	Y	Y	X	-	-
Annelida	-	Polychaeta	-	-	-	-	Polychaeta indet.	-	X	X	X	Y	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	Terebellinae	*Polycirrus medusa*	-	-	-	-	-	-	X	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	Terebellinae	*Polycirrus* sp. complex	X	X	-	X	X	X	Y	Y	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Polydora* sp. complex	X	X	-	-	X	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	-	Polynoidae indet.	X	X	X	X	Y	X	-	X	-	-	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Polynoidae	Polynoinae	Polynoinae indet.	-	-	-	-	Y	-	Y	Y	Y	X	X	-
Annelida	-	Polychaeta	Sedentaria	-	Scalibregmatidae	-	*Polyphysia baffinensis*	X	-	-	-	-	-	-	X	X	-	X	-
Annelida	-	Polychaeta	Sedentaria	-	Scalibregmatidae	-	*Polyphysia crassa*	-	-	-	-	X	X	-	X	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Scalibregmatidae	-	*Polyphysia* sp.	-	-	-	-	-	-	Y	-	-	-	-	-
Mollusca	-	Polyplacophora	-	-	-	-	Polyplacophora indet.	-	-	-	-	Y	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Pontoporeiidae	-	*Pontoporeia femorata*	X	X	X	X	X	X	X	X	X	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Pontoporeiidae	-	Pontoporeiidae indet.	-	-	-	-	Y	-	-	-	-	-	-	-
Mollusca	-	Bivalvia	Protobranchia	Nuculanida	Yoldiidae	-	*Portlandia arctica*	X	X	X	X	X	-	X	X	-	X	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Potamilla neglecta*	-	-	X	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Euclymeninae	*Praxillella gracilis*	-	-	-	-	-	X	X	X	X	X	X	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Euclymeninae	*Praxillella praetermissa*	-	-	-	-	X	X	X	X	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Euclymeninae	*Praxillella* sp.	-	-	-	X	Y	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Lumbriclymeninae	*Praxillura* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Priapulida	-	-	-	-	-	-	Priapulida indet.	-	X	-	-	-	-	Y	Y	Y	X	X	-
Priapulida	-	-	-	Prapulomorpha	Priapulidae	-	*Priapulus caudatus*	X	-	X	X	X	X	-	X	-	X	X	X
Priapulida	-	-	-	Prapulomorpha	Priapulidae	-	*Priapulus* sp.	-	-	-	-	Y	X	Y	Y	Y	X	-	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Prionospio (Prionospio)* sp.	-	-	-	-	-	-	-	Y	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Prionospio cirrifera*	-	-	-	-	X	X	-	X	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Prionospio* sp.	-	-	-	-	Y	X	Y	Y	Y	X	X	X
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Prionospio steenstrupi*	-	X	X	X	X	X	X	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	Terebellinae	*Proclea graffii*	-	-	-	-	-	X	-	-	-	-	X	-
Mollusca	-	Bivalvia	Protobranchia	Nuculida	Nuculidae	-	*Pronucula tenuis*	-	X	X	X	-	-	-	-	-	-	-	-
Mollusca	-	Bivalvia	Autobranchia	Pectinida	Propeamussiidae	-	Propeamussiidae indet.	-	-	-	-	Y	X	Y	Y	Y	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Neogastropoda	Mangeliidae	-	*Propebela* sp.	-	-	-	-	X	-	-	-	-	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Neogastropoda	Mangeliidae	-	*Propepela nobilis*	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Polychaeta incertae sedis	-	Protodrilidae	-	*Protodrilus* sp.	-	-	-	-	-	X	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Protomedeiinae	*Protomedeia fasciata*	-	X	-	X	-	-	-	-	-	-	-	-

Phylum	Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	2010	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Protomedeiinae	*Protomedeia* sp.	-	-	-	-	X	-	-	X	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Protomedeiinae	Protomedeiinae indet.	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Fabriciidae	-	*Pseudofabricia* sp.	-	-	-	-	-	-	-	-	-	X	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Fabriciidae	-	*Pseudofabricia* sp. nr. *aberrans*	-	-	-	-	-	-	X	X	X	-	X	X
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Smittinidae	-	*Pseudoflustra* sp.	-	-	-	-	-	-	-	-	X	-	-	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Diamesinae	*Pseudokiefferiella* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	Sabellinae	*Pseudopotamilla reniformis*	-	-	-	X	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Sphyrapodidae	Pseudosphyrapodinae	*Pseudosphyrapus anomalus*	X	-	-	X	X	X	X	X	X	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Sphyrapodidae	Pseudosphyrapodinae	*Pseudosphyrapus* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Pseudotanaidae	Pseudotanainae	*Pseudotanais* sp.	-	-	-	-	X	X	Y	Y	X	X	X	X
Echinodermata	Echinozoa	Holothuroidea	Actinopoda	Dendrochirotida	Psolidae	-	*Psolus phantapus*	-	-	-	-	X	X	-	-	-	X	-	-
Echinodermata	Echinozoa	Holothuroidea	Actinopoda	Dendrochirotida	Psolidae	-	*Psolus* sp.	-	-	-	-	-	-	Y	-	-	-	-	-
Arthropoda	Chelicerata	Pycnogonida	-	-	-	-	Pycnogonida indet.	X	-	X	-	X	-	-	-	-	-	X	X
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Pygospio elegans*	-	-	-	-	-	-	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Pygospio* sp.	-	X	-	-	X	X	-	-	-	-	-	-
Mollusca	-	Gastropoda	Heterobranchia	Cephalaspidea	Retusidae	-	*Retusa obtusa*	-	X	-	-	-	-	-	-	-	-	-	-
Mollusca	-	Gastropoda	Heterobranchia	Cephalaspidea	Retusidae	-	*Retusa* sp.	-	-	-	-	-	-	-	Y	-	-	X	-
Mollusca	-	Gastropoda	Heterobranchia	Cephalaspidea	Retusidae	-	Retusidae indet.	-	X	-	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Eusiridae	-	*Rhachotropis aculeata*	X	-	-	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Eusiridae	-	*Rhachotropis helleri*	-	-	-	-	X	X	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Eusiridae	-	*Rhachotropis oculata*	-	X	-	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Eusiridae	-	*Rhachotropis* sp.	-	-	-	-	Y	-	-	-	-	-	-	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Chironominae	*Rheotanytarsus* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Rhodininae	*Rhodine bitorquata*	-	-	-	-	-	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Rhodininae	*Rhodine gracilior*	-	-	-	-	-	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Rhodininae	*Rhodine loveni*	-	-	-	-	X	-	X	X	-	X	-	-
Annelida	-	Polychaeta	Sedentaria	-	Maldanidae	Rhodininae	*Rhodine sp.* *	-	-	-	-	-	-	-	-	-	X	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Littorinimorpha	Rissoidae	-	Rissoidae indet.	-	-	-	-	X	X	Y	Y	Y	X	X	-
Arthropoda	Crustacea	Ostracoda	Podocopa	Podocopida	Trachyleneridinae	-	*Robertsonites tuberculatus*	-	-	-	-	X	-	-	-	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Rostroculodes borealis*	-	-	X	-	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Rostroculodes kroyeri*	-	-	X	X	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Rostroculodes longirostris*	-	-	-	-	X	-	-	-	X	X	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Rostroculodes* sp.	-	-	-	-	Y	X	Y	Y	Y	X	X	X
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	-	Sabellid sp. A	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	-	Sabellid sp. B	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	-	Sabellid sp. F	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	-	Sabellid sp. G	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	-	Sabellidae indet.	-	X	X	X	Y	X	Y	Y	Y	X	X	X
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	-	Sabellidae sp. 3	-	-	-	-	-	-	Y	Y	X	X	X	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	-	Sabellidae sp. 4	-	-	-	-	-	-	Y	Y	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	-	Sabellidae sp. H	-	-	-	-	X	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	-	Sabellidae sp. I	-	-	-	-	X	X	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Sabellidae	-	Sabellidae sp. J	-	-	-	-	X	X	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Crangonidae	-	*Sabinea septemcarinata*	X	-	X	-	X	X	X	X	X	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Crangonidae	-	*Sabinea* sp.	-	-	-	-	-	-	-	-	Y	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	Ampharetinae	*Samytha* sp.	-	-	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Scalibregmatidae	-	*Scalibregma inflatum*	X	X	X	X	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	-	Scalibregmatidae	-	Scalibregmatidae indet.	-	-	-	-	Y	-	-	-	-	-	X	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Bitectiporidae	-	*Schizomavella* sp.	-	-	-	-	-	-	-	-	X	-	-	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	-	-	Schizoporelloidea indet.	-	-	-	-	-	-	-	-	X	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Crangonidae	-	*Sclerocrangon boreas*	-	-	-	X	X	X	-	-	-	X	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Crangonidae	-	*Sclerocrangon* sp.	-	-	-	-	-	-	-	Y	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Scolelepis* sp.	-	-	-	-	-	X	-	X	X	X	-	-
Annelida	-	Polychaeta	Errantia	Eunicida	Lumbrineridae	-	*Scoletoma fragilis*	X	-	X	X	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Errantia	Eunicida	Lumbrineridae	-	*Scoletoma laurentiana*	-	-	-	X	X	X	X	X	X	X	X	X

Phylum	Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	2010	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Annelida	-	Polychaeta	Errantia	Eunicida	Lumbrineridae	-	*Scoletoma* sp.	-	-	-	-	-	X	Y	Y	Y	X	X	X
Annelida	-	Polychaeta	Errantia	Eunicida	Lumbrineridae	-	*Scoletoma tenuis*	-	X	-	X	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	-	Orbiniidae	Orbiniinae	*Scoloplos armiger*	X	-	-	-	X	X	X	X	X	X	X	X
Annelida	-	Polychaeta	Sedentaria	-	Orbiniidae	Orbiniinae	*Scoloplos* sp.	-	X	X	-	Y	X	Y	Y	Y	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Scopelocheiridae	Scopelocheirinae	*Scopelocheirus hopei*	-	-	-	X	-	-	-	-	-	-	-	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Candidae	-	*Scrupocellaria* sp.	-	-	-	-	-	X	-	-	-	-	-	-
Arthropoda	Crustacea	Hexanauplia	Thecostraca	Sessilia	Archaeobalanidae	Semibalabinae	*Semibalanus balanoides*	X	-	-	-	-	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Sabellida	Serpulidae	-	Serpulidae indet.	X	X	X	X	-	-	Y	-	-	-	X	-
Mollusca	-	Bivalvia	Autobranchia	Cardiida	Cardiidae	Clinocardiinae	*Serripes groenlandicus*	-	X	X	X	X	X	X	X	X	X	X	X
Mollusca	-	Bivalvia	Autobranchia	Cardiida	Cardiidae	Clinocardiinae	*Serripes* sp.	-	X	-	-	-	-	-	-	-	-	-	-
Mollusca	-	Bivalvia	Autobranchia	Pectinida	Propeamussiidae	-	*Similipecten greenlandicus*	X	-	X	X	X	X	X	X	X	X	-	X
Mollusca	-	Scaphopoda	-	Gadilida	Gadilidae	-	*Siphonodentalium lobatum*	-	-	-	-	-	-	X	X	X	X	-	-
Arthropoda	Crustacea	Copepoda	-	Siphonostomatoid	-	-	Siphonostomatoida indet.	-	-	-	-	-	-	-	-	-	-	X	-
Sipuncula	-	-	-	-	-	-	Sipuncula indet.	-	-	X	X	-	-	-	-	-	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Littorinimorpha	Skeneopsidae	-	*Skeneopsis planorbis*	-	X	-	-	-	-	-	-	-	-	-	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Smittinidae	-	*Smittina* sp.	-	-	-	-	-	-	-	-	X	-	-	-
Echinodermata	Asterozoa	Asteroidea	Ambuloasteroidea	Valvatida	Solasteridae	-	Solasteridae indet.	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Ampharetidae	Ampharetinae	*Sosane wireni*	-	-	-	-	-	-	X	X	-	-	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Sphaerodoridae	-	Sphaerodoridae indet.	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Sphaerodoridae	-	*Sphaerodoridium minutum*	-	-	-	-	-	-	-	-	-	-	X	X
Annelida	-	Polychaeta	Errantia	Phyllodocida	Sphaerodoridae	-	*Sphaerodoropsis biserialis*	-	-	-	-	-	-	X	X	X	X	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Sphaerodoridae	-	*Sphaerodoropsis minuta*	X	-	-	-	X	X	-	X	X	X	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Sphaerodoridae	-	*Sphaerodoropsis minutum*	-	-	-	-	-	-	X	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Sphaerodoridae	-	*Sphaerodorum gracilis*	-	-	-	-	-	-	-	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Spio filicornis*	X	X	X	X	X	X	X	X	X	-	-	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	*Spio* sp.	-	-	-	-	-	-	-	Y	Y	X	X	X
Annelida	-	Polychaeta	Sedentaria	Spionida	Spionidae	-	Spionidae indet.	X	X	X	X	Y	X	Y	Y	Y	X	X	X
Annelida	-	Polychaeta	Sedentaria	Sabellida	Serpulidae	Spirorbinae	Spirorbinae indet.	-	-	-	-	X	X	-	X	-	-	X	-
Bryozoa	-	Stenolaemata	-	-	-	-	Stenolaemata indet.	-	-	-	-	-	-	Y	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Stenothoidae	-	Stenothoidae indet.	X	-	-	X	Y	X	X	X	Y	-	X	X
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Chironominae	*Stictochironomus* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Chordata	Tunicata	Ascidiacea	-	Stolidobranchia	-	-	Stolidobranchia indet.	-	-	-	-	-	-	-	Y	-	-	X	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Fatkullinidae	-	*Stomacrustula pachystega*	-	-	-	-	-	-	-	-	X	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Syllidae	Anoplosyllinae	*Streptospinigera niuqtuut*	-	-	-	-	-	X	X	X	-	X	X	X
Echinodermata	Echinozoa	Echinoidea	Euechinoidea	Camarodonta	Strongylocentrotidae	-	*Strongylocentrotus droebachiensis*	X	-	X	X	X	X	X	X	X	X	X	X
Echinodermata	Echinozoa	Echinoidea	Euechinoidea	Camarodonta	Strongylocentrotidae	-	*Strongylocentrotus pallidus*	-	-	-	-	-	-	-	X	-	-	-	-
Echinodermata	Echinozoa	Echinoidea	Euechinoidea	Camarodonta	Strongylocentrotidae	-	*Strongylocentrotus* sp.	-	X	-	-	Y	X	Y	Y	Y	X	X	-
Chordata	Tunicata	Ascidiacea	-	Stolidobranchia	Styelidae	-	Styelidae indet.	-	-	-	-	-	-	Y	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Syllidae	-	Syllidae indet.	X	X	X	X	Y	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Errantia	Phyllodocida	Syllidae	Anoplosyllinae	*Syllides* sp.	-	-	-	-	X	X	-	X	-	-	-	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Epistomiidae	-	*Synnotum* sp.	-	-	-	-	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	-	-	Tanaidacea indet.	X	X	X	X	Y	X	Y	Y	-	X	X	X
Annelida	-	Polychaeta	Sedentaria	Terebellida	Terebellidae	-	Terebellidae indet.	-	X	X	X	Y	X	Y	Y	Y	X	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Trichobranchidae	-	*Terebellides reishi*	-	-	-	-	X	-	-	-	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Trichobranchidae	-	*Terebellides* sp.	-	-	-	-	Y	X	Y	Y	Y	X	X	X
Annelida	-	Polychaeta	Sedentaria	Terebellida	Trichobranchidae	-	*Terebellides stroemii*	X	X	X	X	X	-	X	-	-	-	-	-
Mollusca	-	Gastropoda	Patellogastropoda	-	Lottiidae	-	*Testudinalia testudinalis*	X	X	X	-	-	X	-	-	-	-	-	-
Nemertea	-	Hoplonemertea	-	Monostilifera	Tetrastemmatidae	-	*Tetrastemma* sp.	-	-	-	-	X	-	X	-	-	-	-	-
Nemertea	-	Hoplonemertea	-	Monostilifera	Tetrastemmatidae	-	Tetrastemmatidae indet.	-	-	-	-	-	-	-	Y	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Cirratulidae	-	*Tharyx* sp.	-	-	-	-	X	X	X	X	-	X	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	-	*Themisto libellula**	-	-	-	-	-	-	-	X	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	-	*Themisto* sp.	-	-	-	X	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Chironomidae	Tanypodinae	*Thienemannimyia* group sp.	-	-	-	-	-	-	-	-	-	-	X	-
Mollusca	-	Bivalvia	Autobranchia	-	Thraciidae	-	*Thracia myopsis*	-	-	X	X	X	X	X	X	X	X	X	-
Mollusca	-	Bivalvia	Autobranchia	-	Thraciidae	-	*Thracia* sp.	-	-	-	-	Y	X	Y	-	Y	X	X	-

Phylum	Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	2010	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Mollusca	-	Bivalvia	Autobranchia	-	Thraciidae	-	Thraciidae indet.	-	-	-	-	-	-	-	-	-	-	X	-
Mollusca	-	Bivalvia	Autobranchia	Lucinida	Thyasiridae	-	*Thyasira flexuosa*	-	X	X	X	-	-	-	-	-	-	-	-
Mollusca	-	Bivalvia	Autobranchia	Lucinida	Thyasiridae	-	*Thyasira gouldi*	X	-	-	-	-	-	-	-	-	-	-	-
Mollusca	-	Bivalvia	Autobranchia	Lucinida	Thyasiridae	-	*Thyasira* sp.	-	-	-	-	X	X	Y	Y	Y	X	X	-
Mollusca	-	Bivalvia	Autobranchia	Lucinida	Thyasiridae	-	Thyasiridae indet.	-	-	-	-	Y	X	Y	Y	Y	X	X	X
Arthropoda	Crustacea	Hexapoda	Insecta	Diptera	Tipulidae	Tipulinae	*Tipula* (*Arctotipula*) sp.	-	-	-	-	-	-	-	-	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Synopiidae	-	*Tiron spiniferus*	-	-	-	-	-	-	-	X	-	-	-	-
Mollusca	-	Polyplacophora	Neoloricata	Chitonida	Tonicellidae	Tonicellinae	*Tonicella marmorea*	X	-	X	X	X	X	X	X	X	X	-	-
Bryozoa	-	Gymnolaemata	-	Cheilostomatida	Candidae	-	*Tricellaria* sp.	-	-	-	-	-	-	-	-	X	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Trichobranchidae	-	Trichobranchidae indet.	X	-	-	-	-	-	-	Y	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Trichobranchidae	-	*Trichobranchus glacialis*	X	-	-	-	X	X	X	X	-	-	-	-
Annelida	-	Polychaeta	Sedentaria	Terebellida	Trichobranchidae	-	*Trichobranchus* sp.	-	-	-	-	-	-	-	-	-	-	X	-
Bryozoa	-	Gymnolaemata	-	Ctenostomatida	Triticellidae	-	*Triticella* sp.	-	-	-	-	-	X	-	-	-	-	-	-
Mollusca	-	Gastropoda	Vetigastropoda	Trochida	Trochidae	-	Trochidae indet.	X	-	-	-	X	X	-	-	-	-	X	-
Annelida	-	Polychaeta	Sedentaria	Spionida	Trochochaetidae	-	*Trochochaeta watsoni*	-	-	-	-	X	-	-	-	-	-	-	-
Mollusca	-	Gastropoda	Vetigastropoda	Trochida	-	-	Trochoidea indet.	-	-	-	-	-	-	-	-	-	-	X	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Tryphosidae	-	Tryphosidae indet.	-	-	-	-	-	-	Y	Y	-	X	X	-
Nemertea	-	Palaeonemertea	-	Tubulaniformes	Tubulanidae	-	*Tubulanus* sp.	-	-	-	-	-	X	X	X	-	-	-	-
Bryozoa	-	Stenolaemata	-	Cyclostomatida	Tubuliporidae	-	*Tubulipora* sp.	-	-	-	-	-	-	X	X	X	-	-	-
Chordata	Tunicata	-	-	-	-	-	Tunicata indet.	-	-	-	X	-	-	-	-	-	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Neogastropoda	Turridae	-	Turridae indet.	X	-	-	-	X	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Typhlotanaidae	-	Typhlotanaidae indet.	-	-	-	-	-	-	-	-	-	-	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Typhlotanaidae	-	*Typhlotanais* sp.	-	-	-	-	X	X	X	X	-	-	X	X
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	Uristidae indet.	-	-	-	-	Y	-	-	X	-	-	-	-
Cnidaria	-	Anthozoa	Hexacorallia	Actiniaria	Actiniidae	-	*Urticina* sp.	-	-	-	-	X	-	-	-	-	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Littorinimorpha	Velutinidae	-	Velutinidae indet.	-	-	-	-	X	X	-	-	-	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Littorinimorpha	Velutinidae	-	Velutinidae indet.	-	-	-	-	X	X	-	-	-	-	-	-
Mollusca	-	Gastropoda	Caenogastropoda	Neogastropoda	Buccinidae	-	*Volutopsius norwegicus*	-	-	-	-	X	X	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Westwoodilla caecula*	-	-	X	-	-	-	-	-	-	-	-	-
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	-	*Westwoodilla* sp.	-	X	-	X	X	X	-	X	Y	X	X	X
Mollusca	-	Bivalvia	Protobranchia	Nuculanida	Yoldiidae	-	*Yoldiella frigida*	-	-	-	-	-	X	X	X	X	X	X	-
Mollusca	-	Bivalvia	Protobranchia	Nuculanida	Yoldiidae	-	*Yoldiella intermedia*	-	-	-	-	-	X	X	-	X	X	-	-
Mollusca	-	Bivalvia	Protobranchia	Nuculanida	Yoldiidae	-	*Yoldiella lenticula*	X	-	-	-	-	X	-	-	-	-	X	-
Mollusca	-	Bivalvia	Protobranchia	Nuculanida	Yoldiidae	-	*Yoldiella nana*	X	-	-	-	-	-	-	-	-	-	-	-
Mollusca	-	Bivalvia	Protobranchia	Nuculanida	Yoldiidae	-	*Yoldiella* sp.	-	-	-	-	-	-	-	Y	Y	X	X	-
Mollusca	-	Bivalvia	Protobranchia	Nuculanida	Yoldiidae	-	Yoldiidae indet.	-	-	-	-	Y	X	Y	Y	Y	X	X	X
Chordata	Vertebrata	Actinopterygii	-	Perciformes	Zoarcidae	-	Zoarcidae indet.	-	-	-	-	-	-	X	-	-	-	-	-
							TOTAL # Taxa (COUNT)	**135**	**147**	**156**	**188**	**237**	**320**	**318**	**370**	**266**	**244**	**352**	**157**
							# New Unique Taxa each year	**135**	**84**	**53**	**50**	**113**	**47**	**41**	**34**	**16**	**1**	**25**	**1**

Notes: taxa identified to the lowest practical taxonomic level; indet.= indeterminate (taxa which could not be identified beyond the taxonomic level listed); sp.=species; cf.=compare with (taxa is an inexact match to the designated taxa).
Taxa in bold indicate new observations in MEEMP and NIS/AIS programs
All taxa cross-referenced with NIS/AIS resources: Fofonoff et al. 2018, ISSG 2025, Costello et al. 2025, Molnar et al. 2008, Casas-Monroy et al. 2014

APPENDIX 8A-2

Benthic Infauna Laboratory Data 2024

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Total abundance data in matrix format, including total taxa (species richness) for WSP Baffinland MEEMP Benthos, 2024.

Biologica Sample ID										mb24-033-001	mb24-033-002	mb24-033-003	mb24-033-004	mb24-033-005	mb24-033-006	mb24-033-007	mb24-033-008
Client Sample ID										**SCV-1**	**SCV-2**	**SE18-1**	**SNW-1**	**SW-1**	**SW-2**	**SW-3**	**SW-4**
Date Sampled										**12-Aug-24**	**17-Aug-24**	**17-Aug-24**	**17-Aug-24**	**18-Aug-24**	**12-Aug-24**	**10-Aug-24**	**18-Aug-24**
								Grand Total		**Total**	**Total**	**Total**	**Total**	**Total**	**Total**	**Total**	**Total**
taxcode	**grpcode**	**Phylum**	**Class**	**Order**	**Family**	**Subfamily**	**Taxon Name**	**Unique Taxa**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**
ANNE	ANHI	Annelida	Clitellata				Hirudinea indet.	1	16								16
ANNE	POER	Annelida	Polychaeta	Eunicida	Dorvilleidae		Ophryotrocha sp.	1	48					16	32		
ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Lumbrineridae indet.		16								16
ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Scoletoma fragilis	1	16	16							
ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Scoletoma laurentiana	1	16		16						
ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Scoletoma sp.		97				48				49
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	1	995		115	432	144	96	16	144	48
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Microphthalmidae		Microphthalmus sp.	1	16						16		
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nephtyidae		Micronephthys cornuta	1	272	64	32		96				80
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nephtyidae		Nephtys ciliata	1	2				1				1
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereidinae	Nereis zonata	1	2		2						
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Eteoninae	Eteone sp.	1	80				16		32	32	
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Phyllodocinae	Phyllodoce groenlandica	1	33		1	16			16		
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Bylgides promamme	1	16				16				
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Gattyana cirrhosa	1	18		2						16
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Harmothoe sp.	1	1		1						
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe longa	1	532		36	64				240	192
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	1	576				48			208	320
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe sp.		64				48			16	
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sphaerodoridae		Sphaerodoridium minutum	1	16	16							
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Syllidae	Anoplosyllinae	Streptospinigera niuqtuut	1	16				16				
ANNE	POER	Annelida	Polychaeta	Phyllodocida	Syllidae	Exogoninae	Exogone sp.	1	32	16							16
ANNE	POSE	Annelida	Polychaeta	Sabellida	Fabriciidae		Pseudofabricia sp. nr. aberrans	1	16		16						
ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Galathowenia oculata	1	257	48	129		64				16
ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Myriochele heeri	1	48	32			16				
ANNE	POSE	Annelida	Polychaeta	Sabellida	Oweniidae		Owenia fusiformis	1	157	112	29		16				
ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp.		2		2						
ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp. 1	1	48	16	32						
ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp. 3	1	32						32		
ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Euchone incolor	1	416	32	112	16	96			48	112
ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Sabellinae	Bispira sp.	1	1								1
ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae		Branchiomma sp.	1	1		1						
ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae		Sabellidae indet.		64			16	16			32	
ANNE	POSE	Annelida	Polychaeta	Spionida	Apistobranchidae		Apistobranchus sp.	1	32				16		16		
ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Prionospio sp.	1	818	208	338		240		16		16
ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Pygospio elegans	1	512		368	16				48	80
ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Spio sp.	1	48						48		
ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Spionidae indet.		16						16		
ANNE	POSE	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetinae	Ampharete petersenae	1	112		48	16	32				16
ANNE	POSE	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetinae	Ampharete sp.		16			16					
ANNE	POSE	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetinae	Lysippe labiata	1	32		32						
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Aphelochaeta sp.	1	416	144	32	32	192			16	
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone bathyala		1,264	48	448	240	240	16	16	64	192
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone careyi	1	496		48	64			112	256	16
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone pigmentata	1	48		16						32
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone setosa complex	1	273	80	80	32	16		16	48	1
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone sp.	1	1,856	112	288	64	496	32	32	432	400
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone anasima		32	32							
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Cirratulidae indet.		496	48		128	208			16	96
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Kirkegaardia sp.	1	32								32
ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Tharyx sp.	1	176	16	32	96					32
ANNE	POSE	Annelida	Polychaeta	Terebellida	Melinnidae		Melinna sp.	1	16		16						
ANNE	POSE	Annelida	Polychaeta	Terebellida	Pectinariidae		Cistenides granulata	1	69		26	3				33	7
ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Laphania boecki	1	112	16	16	16	48		16		
ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Paramphitrite birulai	1	32			16	16				
ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata	1	8		1						7
ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Polycirrus sp. complex	1	96		48						48
ANNE	POSE	Annelida	Polychaeta	Terebellida	Trichobranchidae		Terebellides sp.	1	243	64	33	1	112		16		17
ANNE	POSE	Annelida	Polychaeta		Capitellidae		Capitella capitata complex	1	112					48	16	32	16

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Total abundance data in matrix format, including total taxa (species richness) for WSP Baffinland MEEMP Benthos, 2024.

Biologica Sample ID										mb24-033-001	mb24-033-002	mb24-033-003	mb24-033-004	mb24-033-005	mb24-033-006	mb24-033-007	mb24-033-008
Client Sample ID										**SCV-1**	**SCV-2**	**SE18-1**	**SNW-1**	**SW-1**	**SW-2**	**SW-3**	**SW-4**
Date Sampled										**12-Aug-24**	**17-Aug-24**	**17-Aug-24**	**17-Aug-24**	**18-Aug-24**	**12-Aug-24**	**10-Aug-24**	**18-Aug-24**
								Grand Total		**Total**	**Total**	**Total**	**Total**	**Total**	**Total**	**Total**	**Total**
taxcode	**grpcode**	**Phylum**	**Class**	**Order**	**Family**	**Subfamily**	**Taxon Name**	**Unique Taxa**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**
ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.	1	416	16	80	80	48	16	80	48	48
ANNE	POSE	Annelida	Polychaeta		Capitellidae		Notomastus sp.	1	16		16						
ANNE	POSE	Annelida	Polychaeta		Cossuridae		Cossura longocirrata	1	768	208			304		16	64	176
ANNE	POSE	Annelida	Polychaeta		Maldanidae	Euclymeninae	Clymenura polaris	1	48		16					32	
ANNE	POSE	Annelida	Polychaeta		Maldanidae	Euclymeninae	Euclymeninae indet.		96		48		32			16	
ANNE	POSE	Annelida	Polychaeta		Maldanidae	Maldaninae	Maldane sarsi	1	64		48						16
ANNE	POSE	Annelida	Polychaeta		Opheliidae	Opheliinae	Ophelia limacina	1	16			16					
ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Leitoscoloplos acutus	1	48								48
ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Leitoscoloplos sp.		32				32				
ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Scoloplos armiger	1	81			16	16				49
ANNE	POSE	Annelida	Polychaeta		Orbiniidae	Orbiniinae	Scoloplos sp.		65		17	16	16			16	
ANNE	POSE	Annelida	Polychaeta		Orbiniidae		Orbiniidae indet.		32								32
ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea (Acmira) catherinae	1	32				32				
ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea (Aricidea) minuta	1	512	96	144		32				240
ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea hartmanae	1	80	32			48				
ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea nolani	1	128	32	48		32				16
ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea sp.		48				48				
ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum	1	192	32	16	32	16		16	64	16
ARTH	CHPY	Arthropoda	Pycnogonida				Pycnogonida indet.	1	16						16		
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Corophiidae		Corophiidae indet.	1	48			16				16	16
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Dexaminidae	Prophliantinae	Guernea nordenskioldi	1	272			16	32				224
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Monoculodes sp.	1	16				16				
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Monoculopsis longicornis	1	160							160	
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Oedicerotidae indet.		64			16					48
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Rostroculodes sp.	1	48							32	16
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae		Westwoodilla sp.	1	16	16							
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Stenothoidae		Stenothoidae indet.	1	16				16				
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Tryphosidae		Orchomene sp.	1	48							16	32
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Uristidae		Anonyx nugax	1	1								1
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Uristidae		Anonyx sarsi	1	16						16		
ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Uristidae		Anonyx sp.		32						32		
ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	1	80			16		48			16
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Brachydiastylis resima	1	16								16
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis goodsiri	1	16			16					
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis rathkei	1	16								16
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis scorpioides	1	112	16			32				64
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Diastylis sp.		48							16	32
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Lampropidae		Lampropidae indet.		17		16						1
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Lampropidae		Lamprops fuscatus	1	288							112	176
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Leuconidae		Eudorella truncatula	1	32	16			16				
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Leuconidae		Eudorella sp.		1		1						
ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Leuconidae		Leucon nasicoides	1	256	16			32		16		192
ARTH	CRIS	Arthropoda	Malacostraca	Isopoda	Gnathiidae		Gnathiidae indet.	1	16			16					
ARTH	CROS	Arthropoda	Ostracoda	Myodocopida	Philomedidae		Philomedes sp.	1	3,056	448	16	16	672	16		16	1872
ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Akanthophoreidae		Akanthophoreus sp.	1	16				16				
ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Pseudotanaidae		Pseudotanais sp.	1	48				32				16
ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Sphyrapodidae	Pseudosphyrapodinae	Pseudosphyrapus anomalus	1	240	176			64				
ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Typhlotanaidae		Typhlotanaidae indet.		32	32							
ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea	Typhlotanaidae		Typhlotanais sp.	1	48				48				
ARTH	CRTA	Arthropoda	Malacostraca	Tanaidacea			Tanaidacea indet.		16			16					
ECHI	ECEC	Echinodermata	Echinoidea	Camarodonta	Strongylocentrotidae		Strongylocentrotus droebachiensis	1	3				1				2
ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiocten affinis	1	3							1	2
ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura robusta	1	48				32				16
ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura sarsii	1	24	2		3	4	2		5	8
ECHI	ECOP	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	Ophiurinae	Ophiura sp.		55				51				4
MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida			Cheilostomatida indet.	1	1		1						
MISC	CNHY	Cnidaria	Hydrozoa	Anthoathecata			Anthoathecata indet.	1	1	1							
MISC	CNHY	Cnidaria	Hydrozoa	Limnomedusae	Monobrachiidae		Monobrachium parasitum	1	36	1		17				16	2

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Client Sample ID										**SCV-1**	**SCV-2**	**SE18-1**	**SNW-1**	**SW-1**	**SW-2**	**SW-3**	**SW-4**
Date Sampled										**12-Aug-24**	**17-Aug-24**	**17-Aug-24**	**17-Aug-24**	**18-Aug-24**	**12-Aug-24**	**10-Aug-24**	**18-Aug-24**
								Grand Total		**Total**	**Total**	**Total**	**Total**	**Total**	**Total**	**Total**	**Total**
taxcode	**grpcode**	**Phylum**	**Class**	**Order**	**Family**	**Subfamily**	**Taxon Name**	**Unique Taxa**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**	**Abundance**
MISC	NTEA	Nemertea	Hoplonemertea				Hoplonemertea indet.	1	16	16							
MISC	NTEA	Nemertea	Palaeonemertea	Archinemertea	Cephalotrichidae		Cephalothrix sp.	1	96	16	16				48	16	
MISC	NTEA	Nemertea	Pilidiophora	Heteronemertea	Lineidae		Lineidae indet.	1	18		1		16				1
MISC	NTEA	Nemertea	Pilidiophora	Heteronemertea			Heteronemertea indet.		1		1						
MISC	NTEA	Nemertea					Nemertea indet.		33		1		16			16	
MISC	PORI	Porifera	Calcarea				Calcarea indet.	1	1								1
MISC	PRIA	Cephalorhyncha	Priapulida	Priapulomorpha	Priapulidae		Priapulus caudatus	1	16			16					
MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	1	259		72	34	17	32	11	33	60
MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Cardiidae	Clinocardiinae	Ciliatocardium ciliatum	1	3		1					1	1
MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Cardiidae	Clinocardiinae	Serripes groenlandicus	1	7		2	2			1	2	
MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma calcarea	1	65	18	27	3	12			1	4
MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macoma moesta	1	39			19	1			18	1
MOLL	MOBI	Mollusca	Bivalvia	Cardiida	Tellinidae	Macominae	Macominae indet.		240		16	16	80			16	112
MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte borealis	1	119	18	19	24	6			23	29
MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui	1	580	80	140	54	69			8	229
MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte sp.		224	32	32	16	64				80
MOLL	MOBI	Mollusca	Bivalvia	Lucinida	Thyasiridae		Thyasiridae indet.	1	256	48	80		48			48	32
MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya sp.		107			53				3	51
MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya truncata	1	8		2				1	5	
MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Crenellinae	Arvella faba	1	1	1							
MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors	1	1								1
MOLL	MOBI	Mollusca	Bivalvia	Nuculanida	Nuculanidae	Nuculaninae	Nuculana minuta	1	64			32					32
MOLL	MOBI	Mollusca	Bivalvia	Nuculanida	Nuculanidae	Nuculaninae	Nuculana pernula	1	34	17			16				1
MOLL	MOBI	Mollusca	Bivalvia	Nuculanida	Yoldiidae		Yoldiidae indet.	1	80	16			64				
MOLL	MOBI	Mollusca	Bivalvia	Nuculida	Nuculidae		Ennucula tenuis	1	608	192	48	96	256				16
MOLL	MOBI	Mollusca	Bivalvia	Pectinida	Propeamussiidae		Similipecten greenlandicus		71	26		4	36		1		4
MOLL	MOBI	Mollusca	Bivalvia				Bivalvia indet.	1	80		32		32				16
MOLL	MOGA	Mollusca	Gastropoda	Cephalaspidea	Cylichnidae		Cylichnidae indet.		16				16				
MOLL	MOGA	Mollusca	Gastropoda	Cephalaspidea	Cylichnidae		Cylichnoides occultus		16				16				
MOLL	MOGA	Mollusca	Gastropoda	Cephalaspidea	Tornatinidae		Acteocina sp.	1	16								16
MOLL	MOGA	Mollusca	Gastropoda	Littorinimorpha	Naticidae	Naticinae	Cryptonatica affinis	1	16		16						
MOLL	MOGA	Mollusca	Gastropoda	Littorinimorpha	Naticidae	Polinicinae	Euspira pallida	1	16			16					
MOLL	MOGA	Mollusca	Gastropoda	Littorinimorpha	Rissoidae		Boreocingula castanea	1	16				16				
MOLL	MOGA	Mollusca	Gastropoda	Neogastropoda	Mangeliidae		Mangeliidae indet.	1	33			17					16
MOLL	MOGA	Mollusca	Gastropoda				Gastropoda indet.	1	48				32				16
							Total Abundance		**22,457**	**2,740**	**3,369**	**1,994**	**4,790**	**322**	**718**	**2,485**	**6,039**
							Total Unique Taxa	**121**		**44**	**54**	**42**	**59**	**9**	**26**	**37**	**70**
							Grab Sampler		**Van Veen**	**Van Veen**	**Van Veen**	**Van Veen**	**Van Veen**	**Van Veen**	**Van Veen**	**Van Veen**	**Van Veen**
							# of Composite Grabs		**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**
							Total Density (Organisms/m^2)		**74,857**	**9,133**	**11,230**	**6,647**	**15,967**	**1,073**	**2,393**	**8,283**	**20,130**
Incidental Taxa:																	
MEMO	MEMO	Arthropoda	Hexanauplia				Copepoda indet. (parasitic)		16	16							
MEMO	MEMO	Arthropoda	Hexanauplia				Copepoda indet. (planktonic)		64							48	16
MEMO	MEMO	Arthropoda	Ostracoda				Ostracoda indet. (meiofaunal)		1,872	48	16	64	176	16	16	96	1440
MEMO	MEMO	Echinodermata	Holothuroidea	Apodida	Myriotrochidae		Myriotrochus rinkii		16				16				
MEMO	MEMO						Egg/egg mass		400	80		16	32		32	64	176
MEMO	MEMO	Nematoda					Nematoda indet.		2,400		272	208	48		48	992	832

APPENDIX 8A-3

Benthic Infauna Laboratory Methods

Marine Benthic Enumeration and Identification Methods
Client: WSP
Project: Baffinland MEEMP
Protocol: EEM

Sample Inventory

Sample arrival: 30-Aug-24
Number of samples: 8
Number of jars: 15
Screen size: 500 µm and 1.0 cm
Biologica project number: mb24-033

The chain of custody documents were checked and approved with the client. Samples were transferred from formalin into 70% ethanol and stained with Rose Bengal to aid in sorting. Each sample was provided a unique identification number and placed in the queue for analysis.

Table 1. Summary of benthic samples processed for WSP Baffinland MEEMP, 2024.

Client Sample ID	Date Sampled	Biologica Sample ID	# of Jars	Field Split	Lab Split	Final Split	Organisms Counted
SCV-1	12-Aug-24	mb24-033-001	1	1/4	1/4A	1/16	167
			1	Whole	Whole	Whole	68
SCV-2	17-Aug-24	mb24-033-002	1	1/4	1/4A	1/16	201
			2	Whole	Whole	Whole	153
SE18-1	17-Aug-24	mb24-033-003	1	1/4	1/4A	1/16	119
			1	Whole	Whole	Whole	90
SNW-1	17-Aug-24	mb24-033-004	1	1/4	1/4A	1/16	295
			1	Whole	Whole	Whole	70
SW-1	18-Aug-24	mb24-033-005	8	1/4	1/4A	1/16	20
			1	Whole	Whole	Whole	2
SW-2	12-Aug-24	mb24-033-006	1	1/4	1/4A	1/16	44
			1	Whole	Whole	Whole	14
SW-3	10-Aug-24	mb24-033-007	1	1/4	1/4A	1/16	152
			1	Whole	Whole	Whole	53
SW-4	18-Aug-24	mb24-033-008	1	1/4	1/4A	1/16	368
			2	Whole	Whole	Whole	151

Sample Processing

Sorting and Subsampling:

All samples were sorted using dissecting microscopes at 10–40x magnification by trained personnel. Microscopic sorting is the only way to ensure >90% of organisms are removed from the debris, which is required by EEM (Environment Canada; Environmental Effects Monitoring) guidelines for marine benthic analyses. To minimize potential sorter bias,

samples were distributed among technicians such that no one person sorted all the replicates of a given sample.

Due to historically the large volumes and high abundances in the samples, samples were fractioned in the field into a 1.0 cm macro fraction and 500 µm fine fraction. This strategy was developed to maximize the detection of large and rare individuals in the macro fraction while accurately enumerating smaller organisms in the fine fraction. The macro 1.0 cm fraction was analyzed whole, with all large organisms (>1.0 cm) removed from the sample, as was done in previous years for this project. In addition, all large debris in this fraction were checked microscopically, including rocks and other large debris to ensure encrusting organisms were accurately enumerated.

Biologica subsampled the fine 500 µm fraction. The 500 µm fraction was split in the field to 1/4. Biologica subsequently split this fraction by a second 1/4 split, for a final 1/16 split. Subsampling was done with a Caton tray (Caton, 1991). The sample was spread evenly over a Caton grid, and sequential random quadrats were selected and sorted until the minimum 1/4 lab split was reached.

Sub-sampling accuracy was assessed by sorting the remaining sample for 10% (n= 4) of all sub-sampled samples and comparing the fractions to one another. Refer to Table 2 for sub-sampling accuracy results.

Sorting QA/QC:

To ensure sorting efficiency was >95%, whole and/or partial sub-samples were re-sorted. Sorting efficiency was calculated using the following equation (where total count = final total number of organisms in sample):

Sorting efficiency = [1−(# of organisms in spot check or re-sort / total organisms)] x 100
*Total organisms includes the original count and the number found from the re-sort

All samples checked must meet or exceed 95% sorting efficiency. Any samples falling below 95% sorting efficiency are re-sorted in their entirety, and additional checks are undertaken as necessary. For quality assurance, QA re-sorts were performed on 10% of samples. Four samples were randomly selected and re-sorted in their entirety. Refer to Table 2 for sorting efficiency results.

Table 2. Summary of sorting QA/QC results for WSP Baffinland MEEMP, 2024.

Client Sample ID	Biologica Sample ID	Sorting Efficiency QA Whole Re-sorts	Sub-sampling accuracy
SCV-1	mb24-033-001		
SCV-2	mb24-033-002	98.54%	
SE18-1	mb24-033-003		
SNW-1	mb24-033-004		
SW-1	mb24-033-005		
SW-2	mb24-033-006		93.12%
SW-3	mb24-033-007		
SW-4	mb24-033-008		

Identification and Invasive Species Detection:

All organisms were identified using a combination of dissecting (10–40x) and compound microscopes (100–1000x) and standard taxonomic keys (see methodological and taxonomic references) to the lowest practicable level (species whenever possible). All specimens were archived in air-tight glass vials with glycerin and 70% ethanol for long-term storage. Taxonomic data were recorded in Biologica's custom database.

During the identification process, taxonomists recorded if any identified taxa were beyond their recorded range and/or potentially introduced (originating from another location) or invasive (both introduced and appearing to proliferate with possible detrimental effects to the ecosystem and/or industry). **No taxa observed were identified as putative invasive taxa**. One genus of interest over the past several years of sampling has been *Marenzelleria.* Multiple specimens were externally verified by DNA analysis by Dr. Vasily Radashevsky from the National Scientific Center of Marine Biology and were confirmed to be *Marenzelleria wireni*. Historical identifications can all be taken to this species identification.

One new taxa to the project was identified and has been referenced if needed for verification.

Reference Collection:

Biologica houses a reference collection of all taxa that have been observed in the Baffinland MEEMP project thus far. Taxa are added to this reference collection yearly. These may be new taxa and/or new stages. Taxa new to the project are sent for external verification. This collection consists of a minimum of one specimen representing each taxon and stage, with five specimens per taxon/stage wherever possible. These specimens were labelled, given a location code, and placed in evaporation-resistant shell dram vials. Approximately 1 mL of glycerin was added to each vial to prevent desiccation.

Data Management and Analysis

All data were recorded in Biologica's custom database. Total abundances were extrapolated for samples split in the field and the lab to represent the abundance from the whole sample. Organism densities were calculated by dividing the total organism abundance (extrapolated if the sample was split) using the area of a Van Veen grab (0.1 m^2), with three composite Van Veen grabs (3 x 0.1m^2) for each sample.

Results were provided to the WSP project manager in Excel spreadsheets via email.

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APPENDIX 8B-1

Incidental Taxa Identifications 2024

Phylum Class/Order	Family	Taxa	Method
Annelida			
Polychaeta/-	-	Polychaeta indet.	Quadrats
Polychaeta/Echiura	-	Echiura indet.	Fish Stomachs
Polychaeta/Errantia	Polynoidae	*Harmothoe imbricata*	Incidentals, Quadrats
Polychaeta/Sedentaria	Pectinariidae	*Cistenides granulata*	Offset Habitat, Quadrats
Polychaeta/Sedentaria	Pectinariidae	Pectinariidae indet.	Fish Stomachs
Polychaeta/Sedentaria	Sabellidae	Sabellidae indet.	Offset Habitat, Quadrats
Polychaeta/Sedentaria	Serpulidae	Serpulidae indet.	Offset Habitat
Polychaeta/Sedentaria	Terebellidae	Terebellidae indet.	Quadrats
Arthropoda			
-/-	-	Crustacea indet.	Fish Stomachs
Copepoda/-	-	Copepoda indet.	Incidentals
Copepoda/Calanoida	Calanidae	*Calanus hyperboreus*	Fish Stomachs
Copepoda/Calanoida	Calanidae	*Calanus* sp.	Fish Stomachs
Insecta/Diptera	-	Tipuloidea indet.	Fish Stomach
Malacostraca/Amphipoda	-	Amphipoda indet.	Fish Stomachs, Quadrats
Malacostraca/Amphipoda	-	Hyperiidea indet.	Fish Stomachs
Malacostraca/Amphipoda	-	Lysianassoidea indet.	Fish Stomachs
Malacostraca/Amphipoda	Atylidae	*Atylus* sp.	Fish Stomachs
Malacostraca/Amphipoda	Gammaridae	*Gammarus* sp.	Fish Stomachs
Malacostraca/Amphipoda	Hyperiidae	*Themisto* sp.	Fish Stomachs
Malacostraca/Amphipoda	Oedicerotidae	Oedicerotidae indet.	Fish Stomachs
Malacostraca/Amphipoda	Uristidae	*Onisimus* sp.	Fish Stomachs
Malacostraca/Decapoda	Pandalidae	***Pandalus montagui***	Quadrats
Malacostraca/Mysida	-	Mysida indet.	Offset Habitat, Fish Stomachs, Quadrats
Malacostraca/Mysida	Mysidae	*Mysis* sp.	Fish Stomachs
Thecostraca/Balanomorpha	-	Balanomorpha indet.	Offset Habitat, Quadrats
Thecostraca/Balanomorpha	Balanidae	*Balanus* sp.	Incidentals
Brachiopoda			
-/-	-	Brachiopoda indet.	Offset Habitat
Rhynchonellata/Rhynchonellida	Hemithirididae	***Hemithiris psittacea***	Incidentals
Bryophyta			
Bryopsida/Hypnales	Amblysteigaceae	***Pseudocalliergon brevifolium***	Incidentals
Bryozoa			
Gymnolaemata/Cheilostomatida	Calloporidae	Calloporidae indet.	Incidentals
Gymnolaemata/Cheilostomatida	-	Cheilostomatida indet.	Incidentals
Gymnolaemata/Ctenostomatida	Alcyonidiidae	*Alcyonidium* sp.	Incidentals
Stenolaemata/Cyclostomatida	-	Cyclostomatida indet.	Incidentals
Chlorophyta			
-/-	-	Chlorophyta indet.	Quadrats
Chlorophyceae/Acrosiphoniales	Acrosiphoniaceae	*Acrosiphonia* sp.	Offset Habitat
Chlorophyceae/Acrosiphoniales	Acrosiphoniaceae	***Acrosiphonia* sp. 3GWS**	Macroalgae, NextGen Sequencing
Chlorophyceae/Acrosiphoniales	Acrosiphoniaceae	***Acrosiphonia* sp. 6GWS**	NextGen Sequencing
Chlorophyceae/Acrosiphoniales	Acrosiphoniaceae	***Acrosiphonia* sp. 8GWS**	Macroalgae, NextGen Sequencing
Chlorophyceae/Acrosiphoniales	Acrosiphoniaceae	*Spongomorpha aeruginosa*	Offset Habitat, Quadrats
Ulvophyceae/Cladophorales	Cladophoraceae	***Chaetomorpha brachygona***	NextGen Sequencing
Ulvophyceae/Cladophorales	Cladophoraceae	*Chaetomorpha melagonium*	Offset Habitat, Macroalgae, Quadrats
Ulvophyceae/Cladophorales	Cladophoraceae	***Chaetomorpha* sp. 3GWS**	NextGen Sequencing
Ulvophyceae/Cladophorales	Cladophoraceae	***Rhizoclonium riparium***	NextGen Sequencing
Ulvophyceae/Ulotrichales	Ulotrichaceae	***Ulothrix flacca***	Macroalgae, NextGen Sequencing
Ulvophyceae/Ulotrichales	Ulotrichaceae	***Ulothrix* sp. 1 Nunavut**	Macroalgae
Ulvophyceae/Ulotrichales	Ulotrichaceae	***Ulothrix subflaccida***	NextGen Sequencing
Ulvophyceae/Ulotrichales	Ulotrichaceae	*Urospora neglecta*	Macroalgae
Ulvophyceae/Ulotrichales	Ulotrichaceae	***Urospora pencilliformis***	NextGen Sequencing
Ulvophyceae/Ulvales	Kornmanniaceae	*Blidingia* sp.	Macroalgae
Ulvophyceae/Ulvales	Kornmanniaceae	*Blidingia* sp. 2Subsalsa	Macroalgae
Ulvophyceae/Ulvales	Ulvaceae	***Ulvaria splendens***	NextGen Sequencing
Chordata			
-/-	-	Tunicata ident.	Offset Habitat, Quadrats
Ascidiacea/Phlebobranchia	Ascidiidae	*Ascidia* sp.	Incidentals
Ascidiacea/Stolidobranchia	-	Stolidobranchia indet.	Incidentals
Ascidiacea/Stolidobranchia	Pyuridae	*Boltenia echinata*	Incidentals
Ascidiacea/Stolidobranchia	Pyuridae	Pyuridae indet.	Incidentals

Phylum Class/Order	Family	Taxa	Method
Teleostei/-	-	Teleostei indet.	Fish Stomachs
Teleostei/Gadiformes	Gadidae	Gadidae indet.	Fish Capture
Teleostei/Gadiformes	Gadidae	*Gadus macrocephalus*	Fish Capture
Teleostei/Gadiformes	Gadidae	*Gadus* sp.	Fish Capture
Teleostei/Perciformes	Agonidae	*Aspidophoroides olrikii*	Fish Capture, Incidentals
Teleostei/Perciformes	Ammodytidae	Ammodytidae indet.	Fish Stomachs
Teleostei/Perciformes	Cottidae	Cottidae indet.	Fish Capture
Teleostei/Perciformes	Cottidae	*Gymnocanthus tricuspis*	Fish Capture
Teleostei/Perciformes	Cottidae	*Icelus spatula*	Fish Capture
Teleostei/Perciformes	Cottidae	*Myoxocephalus quadricornis*	Fish Capture
Teleostei/Perciformes	Cottidae	*Myoxocephalus scorpioides*	Fish Capture, Quadrats
Teleostei/Perciformes	Cottidae	*Myoxocephalus scorpius*	Fish Capture, Offset Habitat, Quadrats
Teleostei/Perciformes	Cottidae	*Myoxocephalus* sp.	Incidentals
Teleostei/Perciformes	Cottidae	*Triglops pingelii*	Fish Capture
Teleostei/Perciformes	Cyclopteridae	*Cyclopterus lumpus*	Quadrats
Teleostei/Perciformes	Cyclopteridae	*Eumicrotremus spinosus*	Fish Capture
Teleostei/Perciformes	Stichaeidae	*Lumpenus* sp.	Quadrats
Teleostei/Perciformes	Stichaeidae	*Lumpenus fabricii*	Quadrats
Teleostei/Perciformes	Zoarcidae	*Gymnelus viridis*	Offset Habitat, Quadrats
Teleostei/Perciformes	Zoarcidae	*Lycodes mucosus*	Quadrats
Teleostei/Perciformes	Zoarcidae	Zoarcidae indet.	Offset Habitat
Teleostei/Salmoniformes	Salmonidae	*Salvelinus alpinus*	Fish Capture
Cnidaria			
Hexacorallia/Actiniaria	Actiniidae	*Urticina* sp.	Offset Habitat
Hexacorallia/Ceriantharia	-	Ceriantharia indet.	Offset Habitat, Quadrats
Hydrozoa/Leptothecata	-	Leptothecata indet.	Offset Habitat
Ctenophora			
Ctenophora/-	-	Ctenophora indet.	Offset Habitat, Quadrats
Echinodermata			
Asteroidea/Forcipulatida	Asteriidae	*Leptasterias* sp.	Quadrats
Echinoidea/Camarodonta	Strongylocentrotidae	*Strongylocentrotus droebachiensis*	Offset Habitat
Ophiuroidea/Ophiuroidea	Ophiuridae	Ophuiridae indet.	Offset Habitat, Quadrats
Heterokontophyta			
Bacillariophyceae/Naviculales	Berkeleyaceae	***Berkeleya* sp.**	Macroalgae
Bacillariophyceae/Naviculales	Berkeleyaceae	***Parlibellus* sp.**	Macroalgae
Mollusca			
Bivalvia/Adapedonta	Hiatellidae	*Hiatella arctica*	Offset Habitat, Quadrats
Bivalvia/Cardiida	Cardiidae	*Serripes groenlandicus*	Quadrats
Bivalvia/Cardiida	Tellinidae	*Macoma* sp.	Quadrats
Bivalvia/Carditida	Astartidae	*Astarte borealis*	Offset Habitat, Quadrats
Bivalvia/Myida	Myidae	*Mya truncata*	Offset Habitat, Quadrats
Bivalvia/Mytilida	Mytilidae	*Musculus discors*	Offset Habitat, Quadrats
Bivalvia/Mytilida	Mytilidae	*Mytilus* sp.	Incidentals, Offset Habitat, Quadrats
Bivalvia/Nuculanida	Nuculanidae	*Nuculana* sp.	Quadrats
Bivalvia/Pectinida	Pectinidae	*Chlamys islandica*	Quadrats
Bivalvia/Pectinida	Propeamussiidae	*Similipectens greenlandicus*	Quadrats
Cephalopoda/Sepiida	-	**Sepiolina indet.**	Incidentals
Gastropoda/-	Lottidae	Lottidae indet.	Offset Habitat
Gastropoda/-	Lottidae	*Testudinalia testudinalis*	Incidentals, Quadrats
Gastropoda/Nudibranchia	-	Dendronotoidea indet.	Incidentals
Gastropoda/Nudibranchia	Dendronotidae	*Dendronotus* sp.	Quadrats
Gastropoda/Pteropoda	Limacinidae	*Limacina* sp.	Fish Stomachs
Gastropoda/Trochida	Margaritidae	*Margarites* sp.	Quadrats
Polyplacophora/Chitonida	Tonicellidae	*Tonicella marmorea*	Incidentals
Nemertea			
-/-	-	Nemertea indet.	Quadrats
Ochrophyta			
Phaeophyceae/Desmarestiales	Desmarestiaceae	*Desmarestia aculeata*	Macroalgae
Phaeophyceae/Desmarestiales	Desmarestiaceae	***Desmarestia ligulata***	NextGen Sequencing
Phaeophyceae/Desmarestiales	Desmarestiaceae	*Desmarestia* sp.	Offset Habitat, Quadrats
Phaeophyceae/Desmarestiales	Desmarestiaceae	***Desmarestia* sp. 1Arctic**	Macroalgae, NextGen Sequencing
Phaeophyceae/Ectocarpales	Acinetosporaceae	**Acinetosporaceae_gen sp. 1AP2016**	NextGen Sequencing
Phaeophyceae/Ectocarpales	Acinetosporaceae	*Pylaiella* sp.	Offset Habitat, Macroalgae, Quadrats
Phaeophyceae/Ectocarpales	Acinetosporaceae	*Pylaiella washingtoniensis*	Macroalgae

Phylum Class/Order	Family	Taxa	Method
Phaeophyceae/Ectocarpales	Chordariaceae	***Ascoseirophila* sp. 1violodora**	Macroalgae
Phaeophyceae/Ectocarpales	Chordariaceae	***Chordaria chordaeformis***	NextGen Sequencing
Phaeophyceae/Ectocarpales	Chordariaceae	***Chordaria flagelliformis***	NextGen Sequencing
Phaeophyceae/Ectocarpales	Chordariaceae	*Dictyosiphon foeniculaceus*	Quadrats
Phaeophyceae/Ectocarpales	Chordariaceae	***Elachista* sp. 1Arctic**	NextGen Sequencing
Phaeophyceae/Ectocarpales	Chordariaceae	***Litosiphon* sp. 1Arctic**	Macroalgae
Phaeophyceae/Ectocarpales	Chordariaceae	***Microspongium* sp. 4GWS**	NextGen Sequencing
Phaeophyceae/Ectocarpales	Chordariaceae	***Polycerea borealis***	NextGen Sequencing
Phaeophyceae/Ectocarpales	Chordariaceae	***Punctaria* sp.**	NextGen Sequencing
Phaeophyceae/Ectocarpales	Chordariaceae	***Saundersella doloresiae***	NextGen Sequencing
Phaeophyceae/Ectocarpales	Chordariaceae	*Stictyosiphon arcticus*	Macroalgae
Phaeophyceae/Ectocarpales	Chordariaceae	*Stictyosiphon tortilis*	Offset Habitat, Macroalgae, Quadrats
Phaeophyceae/Ectocarpales	Ectocarpaceae	***Ectocarpus* sp.**	NextGen Sequencing
Phaeophyceae/Ectocarpales	Ectocarpaceae	***Ectocarpus* sp. 1siliculosis**	NextGen Sequencing
Phaeophyceae/Ectocarpales	Scytosiphonaceae	***Petalonia arctica***	NextGen Sequencing
Phaeophyceae/Ectocarpales	Scytosiphonaceae	***Petalonia fascia***	NextGen Sequencing
Phaeophyceae/Ectocarpales	Scytosiphonaceae	***Planosiphon filiformis***	NextGen Sequencing
Phaeophyceae/Ectocarpales	Scytosiphonaceae	***Scytosiphon shibazakiorum***	Macroalgae, NextGen Sequencing
Phaeophyceae/Ectocarpales	Scytosiphonaceae	***Scytosiphon* sp. 1 crust**	NextGen Sequencing
Phaeophyceae/Fucales	Fucaceae	*Fucus distichus*	Offset Habitat, Macroalgae, Quadrats
Phaeophyceae/Laminariales	Laminariaceae	*Saccharina latissima*	Offset Habitat, Macroalgae, Quadrats
Phaeophyceae/Ralfsiales	Ralfsiaceae	***Ralfsia* sp.**	Macroalgae
Phaeophyceae/Ralfsiales	Ralfsiaceae	***Ralfsia* sp. 1Arctic**	NextGen Sequencing
Phaeophyceae/Sphacelariales	Sphacelariaceae	*Battersia arctica*	Macroalgae
Phaeophyceae/Sphacelariales	Sphacelariaceae	*Batersia* sp.	Offset Habitat, Quadrats
Phaeophyceae/Sphacelariales	Sphacelariaceae	*Chaetopteris plumosa*	Offset Habitat, Macroalgae
Phaeophyceae/Sphacelariales	Stypocaulaceae	***Protohalopteris radicans***	NextGen Sequencing
Phaeophyceae/Tilopteridales	Halosiphonaceae	***Halosiphon* sp. 2tomentosus**	NextGen Sequencing
Phaeophyceae/Tilopteridales	Halosiphonaceae	*Halosiphon tomentosus*	Offset Habitat, Quadrats
Phaeophyceae/Tilopteridales	Phyllariaceae	***Saccorhiza dermatodea***	Macroalgae
Phaeophyceae/Tilopteridales	Tilopteraceae	***Haplospora globosa***	NextGen Sequencing
Phaeophyceae/Tilopteridales	Tilopteraceae	**Tilopteridalean sp. 2GWS**	NextGen Sequencing
Phaeophyceae/Tilopteridales	Tilopteraceae	**Tilopteridalean sp. 3GWS**	NextGen Sequencing
Platyhelminthes			
Cestoda/-	-	Cestoda indet.	Fish Stomachs
Porifera			
Demospongidae/-	-	Demospongidae indet.	Incidentals
Rhodophyta			
Florideophyceae/Acrochaetiales	Acrochaetiaceae	***Grania efflorescens***	NextGen Sequencing
Florideophyceae/Ahnfeltiales	Ahnfeltiaceae	***Ahnfeltia plicata***	Offset Habitat
Florideophyceae/Ceramiales	Ceramiaceae	***Antithamnion* cf. *sparsum***	NextGen Sequencing
Florideophyceae/Ceramiales	Ceramiaceae	*Scagelia pylaisaei*	Macroalgae
Florideophyceae/Ceramiales	Delesseriaceae	*Phycodrys fimbriata*	Offset Habitat, Macroalgae, Quadrats
Florideophyceae/Ceramiales	Rhodomelaceae	*Odonthalia dentata*	Offset Habitat, Macroalgae
Florideophyceae/Ceramiales	Rhodomelaceae	***Polysiphonia kapraunii***	NextGen Sequencing
Florideophyceae/Ceramiales	Rhodomelaceae	*Polysiphonia* sp.	Offset Habitat, Quadrats
Florideophyceae/Ceramiales	Rhodomelaceae	***Rhodomela sibirica***	Macroalgae
Florideophyceae/Ceramiales	Rhodomelaceae	*Rhodomela virgata*	Macroalgae
Florideophyceae/Ceramiales	Rhodomelaceae	*Savoiea arctica*	Offset Habitat, Macroalgae, Quadrats
Florideophyceae/Corallinales	-	Corallinales indet.	Offset Habitat, Quadrats
Florideophyceae/Corallinales	Lithophyllaceae	***Titanoderma pustulatum***	NextGen Sequencing
Florideophyceae/Gigartinales	Dumontiaceae	*Dilsea socialis*	Offset Habitat, Macroalgae
Florideophyceae/Gigartinales	Phyllophoraceae	*Coccotylus truncatus*	Offset Habitat, Macroalgae, Quadrats
Florideophyceae/Hapalidiales	Hapalidiaceae	***Boreolithothamnion lemoineae***	Macroalgae
Florideophyceae/Hapalidiales	Mesophyllumaceae	***Leptophytum foecundum***	Macroalgae
Florideophyceae/Hapalidiales	Mesophyllumaceae	***Leptophytum laeve***	Macroalgae

Notes: taxa identified to the lowest practical taxonomic level; indet.= indeterminate (taxa which could not be identified beyond the taxonomic level listed); sp.=species; cf.=compare with (taxa is an inexact match to the designated taxa).
Taxa in bold indicate new observations in MEEMP and NIS/AIS programs
All taxa cross-referenced with NIS/AIS resources: Fofonoff et al. 2018, ISSG 2025, Costello et al. 2025, Molnar et al. 2008, Casas-Monroy et al. 2014

APPENDIX 8B-2

Incidentals Laboratory Data 2024

biologica

Abundance data in long format for WSP Baffinland MEEMP Specimens, 2024.

Client	Project	Year	Sample Type	Split	Biologica Sample ID	Client Sample ID	Date Sampled	taxcode	grpcode	Phylum	Class	Order	Family	Subfamily	Taxon Name	A	Int	J	Total Abundance	Unique Taxa	Comments
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-123	Center-S-24-Opportunistic-Tunicate	01-Aug-24	MISC	URAS	Chordata	Ascidiacea	Stolidobranchia	Pyuridae		Pyuridae indet.	2			2	1	
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-124	East-M-24-Opportunistic-Barncales	01-Aug-24	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha	Balanidae	Balaninae	Balanus sp.		18		18	1	
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-125	East-M-24-Opportunistic-Eggs	01-Aug-24	EGGS	EGGS						Egg/egg mass			23	23	1	Sepiolina indet. (Bobtail squid) eggs
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-126	East-M-B-Bl-Y4-24-Opportunistic-Tunicate, Bryozoan	01-Aug-24	MISC	BRYO	Bryozoa	Stenolaemata	Cyclostomatida			Cyclostomatida indet.	1			1	1	
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-126	East-M-B-Bl-Y4-24-Opportunistic-Tunicate, Bryozoan	01-Aug-24	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida			Cheilostomatida indet.	1			1	1	
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-126	East-M-B-Bl-Y4-24-Opportunistic-Tunicate, Bryozoan	01-Aug-24	MISC	URAS	Chordata	Ascidiacea	Stolidobranchia	Pyuridae		Boltenia echinata			8	8	1	
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-126	East-M-B-Bl-Y4-24-Opportunistic-Tunicate, Bryozoan	01-Aug-24	MISC	URAS	Chordata	Ascidiacea	Phlebobranchia	Ascidiidae		Ascidia sp.			3	3	1	
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-127	Q2OLD-Opportunistic-Bryozoan-24	28-Jul-24	MISC	BRYO	Bryozoa	Gymnolaemata	Ctenostomatida	Alcyonidiidae		Alcyonidium sp.	1			1	1	
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-128	Q6-24-Opportunistic-Tunicate	08-Aug-24	MISC	URAS	Chordata	Ascidiacea	Stolidobranchia	Pyuridae		Boltenia echinata		1	1	2	1	Encrusting on scallop shell
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-128	Q6-24-Opportunistic-Tunicate	08-Aug-24	MISC	URAS	Chordata	Ascidiacea	Stolidobranchia			Stolidobranchia indet.			1	1		Encrusting on scallop shell
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-128	Q6-24-Opportunistic-Tunicate	08-Aug-24	MISC	URAS	Chordata	Ascidiacea	Stolidobranchia			Stolidobranchia indet.			1	1		Encrusting on scallop shell
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-128	Q6-24-Opportunistic-Tunicate	08-Aug-24	MISC	PORI	Porifera	Demospongiae				Demospongiae indet.			3	3	1	Encrusting on scallop shell
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-128	Q6-24-Opportunistic-Tunicate	08-Aug-24	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida			Cheilostomatida indet.	1			1	1	Encrusting on scallop shell
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-129	Q6-P-G-Y4-24-Opportunistic-Bryozoan	08-Aug-24	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida	Calloporidae		Calloporidae indet.	3			3	1	
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-130	Q7-24-Opportunistic-Bryozoan	06-Aug-24	MISC	BRYO	Bryozoa	Gymnolaemata	Ctenostomatida	Alcyonidiidae		Alcyonidium sp.	1			1	1	
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-131	Q12-B-G-Y2-24-Opportunistic-Bryozoan	31-Jul-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				n/a		Debris/tissue fragment, nothing to identify in vial
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-132	RefTI-24-Opportunistic-Brachiopod	07-Aug-24	MISC	BRAC	Brachiopoda	Rhynchonellata	Rhynchonellida	Hemithiridiidae		Hemithiris psittacea	1			1	1	New to 2024
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-133	TGT-Ref-Chiton	16-Aug-24	MOLL	MOPO	Mollusca	Polyplacophora	Chitonida	Tonicellidae	Tonicellinae	Tonicella marmorea	1			1	1	
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-134	TGT-Ref-Coraline Algae	16-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Archived				n/a		Archived, not processed
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-135	TRO1-Tunicate	11-Aug-24	MISC	URAS	Chordata	Ascidiacea	Phlebobranchia	Ascidiidae		Ascidia sp.	2			2	1	
WSP	Baffinland MEEMP	2024	DNA Specimens	Whole	mb24-033-135	TRO1-Tunicate	11-Aug-24	MEMO	MEMO	Arthropoda	Hexanauplia				Copepoda indet. (parasitic)	1			1		
WSP	Baffinland MEEMP	2024	Fin Clips and Whole Body Fish	Whole	24-033-319	ARAL-17	13-Aug-24	-	PIXX	Chordata	Teleostei	Scorpaeniformes	Agonidae	-	Aspidophoroides olrikii	-	-	-	-	-	Ulcina olrikii synonym
WSP	Baffinland MEEMP	2024	Fin Clips and Whole Body Fish	Whole	24-033-320	ARAL-18	13-Aug-24	-	PIXX	Chordata	Teleostei	Scorpaeniformes	Agonidae	-	Aspidophoroides olrikii	-	-	-	-	-	Ulcina olrikii synonym
WSP	Baffinland MEEMP	2024	Fin Clips and Whole Body Fish	Whole	24-033-350	UNCD-13	13-Aug-24	-	PIXX	Chordata	Actinopteri	Gadiformes	Gadidae	-	Gadidae indet.	-	-	-	-	-	
WSP	Baffinland MEEMP	2024	Fin Clips and Whole Body Fish	Whole	24-033-351	UNCD-14	13-Aug-24	-	PIXX	Chordata	Actinopteri	Gadiformes	Gadidae	-	Gadidae indet.	-	-	-	-	-	
WSP	Baffinland MEEMP	2024	Fin Clips and Whole Body Fish	Whole	24-033-352	UNSC-01-DV	11-Aug-24	-	PIXX	Chordata	Actinopteri	Scarpaeniformes	Cottidae	-	Myoxocephalus sp.	-	-	-	-	-	
WSP	Baffinland MEEMP	2024	Fin Clips and Whole Body Fish	Whole	24-033-354	UNSC-03	10-Aug-24	-	PIXX					-	Fin Clip	-	-	-	-	-	Submitting for DNA
WSP	Baffinland MEEMP	2024	Fin Clips and Whole Body Fish	Whole	24-033-355	UNSC-04	13-Aug-24	-	PIXX	Chordata	Actinopteri	Scarpaeniformes	Cottidae	-	Myoxocephalus sp.	-	-	-	-	-	
WSP	Baffinland MEEMP	2024	Fin Clips and Whole Body Fish	Whole	24-033-356	UNSC-05	16-Aug-24	-	PIXX	Chordata	Actinopteri	Scarpaeniformes	Cottidae	-	Myoxocephalus scorpius	-	-	-	-	-	Identified from photos (refer to reference: https://www.fishbase.se/photos/ThumbnailsSummary.php?ID=1329)
WSP	Baffinland MEEMP	2024	Fin Clips and Whole Body Fish	Whole	24-033-357	UNSC-06	18-Aug-24	-	PIXX					-	Fin Clip	-	-	-	-	-	Submitting for DNA
WSP	Baffinland MEEMP	2024	Quadrat Trawl	Whole	mb24-033-119	Q6-24-Opportunistic-Chiton, Limpet	08-Aug-24	MOLL	MOGA	Mollusca	Gastropoda		Lottiidae		Testudinalia testudinalis	1			1	1	
WSP	Baffinland MEEMP	2024	Quadrat Trawl	Whole	mb24-033-119	Q6-24-Opportunistic-Chiton, Limpet	08-Aug-24	MOLL	MOPO	Mollusca	Polyplacophora	Chitonida	Tonicellidae	Tonicellinae	Tonicella marmorea	1			1	1	
WSP	Baffinland MEEMP	2024	Quadrat Trawl	Whole	mb24-033-120	Q14-24-Opportunistic-Mussel	11-Aug-24	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilus sp.	1	1		1	1	
WSP	Baffinland MEEMP	2024	Quadrat Trawl	Whole	mb24-033-121	Q17-24-Opportunistic- Worm	06-Aug-24	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Harmothoe imbricata	1	1		1	1	
WSP	Baffinland MEEMP	2024	Quadrat Trawl	Whole	mb24-033-122	Q17-24-Opportunistic-Nudibranch	6-Aug-24	MOLL	MOGA	Mollusca	Gastropoda	Nudibranchia			Dendronotoidea indet.	1	1		1	1	

APPENDIX 8B-3

Fish Stomach Laboratory Data 2024

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Abundance and biomass data in long format for WSP Baffinland MEEMP, 2024.

Client	Project	Year	Fish	Biologica Sample ID	Client Sample ID	Date Sampled	% Fullness	% Material Digested	Full Stomach Weight (g)	Source	Group Code	Phylum	Subphylum	Class	Subclass	Order	Family	Taxon	Stage	Total Abundance	Total WW (g)	WW/Individual (g)	Total Unique Taxa	Comments	Processing Note
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-136	BAFF24UDPFFHSC1001	04-Aug-24	100	25	20.55182	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	1	0.02727	0.02727	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-136	BAFF24UDPFFHSC1001	04-Aug-24	100	25	20.55182	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	Onisimus sp.	A	1	0.09741	0.09741	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-136	BAFF24UDPFFHSC1001	04-Aug-24	100	25	20.55182	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Amphipoda indet.	A/parts		0.00924	0.00924			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-136	BAFF24UDPFFHSC1001	04-Aug-24	100	25	20.55182	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Hyperiidea indet.	A	1	0.14721	0.14721	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-136	BAFF24UDPFFHSC1001	04-Aug-24	100	25	20.55182	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	A	30	0.15381	0.00513	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-136	BAFF24UDPFFHSC1001	04-Aug-24	100	25	20.55182	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.06310	0.06310			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-136	BAFF24UDPFFHSC1001	04-Aug-24	100	25	20.55182	Benthic	EURA	Annelida		Polychaeta	Echiura			Echiura indet.	A	1	0.72311	0.72311	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-136	BAFF24UDPFFHSC1001	04-Aug-24	100	25	20.55182	Planktonic	MOGA	Mollusca						Limacina sp.	A	53	0.65928	0.01244			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-136	BAFF24UDPFFHSC1001	04-Aug-24	100	25	20.55182	Planktonic	MOGA	Mollusca						Limacina sp.	A	204	2.34161	0.01148	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-136	BAFF24UDPFFHSC1001	04-Aug-24	100	25	20.55182	Non-Food	Non-Food							Plant material	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-136	BAFF24UDPFFHSC1001	04-Aug-24	100	25	20.55182	Planktonic	PIXX	Chordata	Vertebrata	Teleostei				Teleostei indet.	A	1	2.58451	2.58451	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-136	BAFF24UDPFFHSC1001	04-Aug-24	100	25	20.55182	Undetermined	XXXX							Unidentified tissue	Parts		0.37129	0.37129			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-137	BAFF24UDPFFHSC1002	04-Aug-24	100	100	3.09678	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	2	0.00595	0.00298			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-137	BAFF24UDPFFHSC1002	04-Aug-24	100	100	3.09678	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	2	0.07507	0.03754	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-137	BAFF24UDPFFHSC1002	04-Aug-24	100	100	3.09678	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	A	12	0.09749	0.00812	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-137	BAFF24UDPFFHSC1002	04-Aug-24	100	100	3.09678	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	A	8	0.05830	0.00729	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-137	BAFF24UDPFFHSC1002	04-Aug-24	100	100	3.09678	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.75895	0.75895			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-137	BAFF24UDPFFHSC1002	04-Aug-24	100	100	3.09678	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-138	BAFF24UDPFFHSC1003	04-Aug-24	25	75	5.22891	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	1	0.02570	0.02570	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-138	BAFF24UDPFFHSC1003	04-Aug-24	25	75	5.22891	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	2	0.11381	0.05691			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-138	BAFF24UDPFFHSC1003	04-Aug-24	25	75	5.22891	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	1	0.01675	0.01675			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-138	BAFF24UDPFFHSC1003	04-Aug-24	25	75	5.22891	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	5	0.04977	0.00995	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-138	BAFF24UDPFFHSC1003	04-Aug-24	25	75	5.22891	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	A/parts		0.01275	0.01275			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-138	BAFF24UDPFFHSC1003	04-Aug-24	25	75	5.22891	Planktonic	MOGA	Mollusca						Limacina sp.	A	7	0.05909	0.00844			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-138	BAFF24UDPFFHSC1003	04-Aug-24	25	75	5.22891	Planktonic	MOGA	Mollusca						Limacina sp.	A	17	0.13128	0.00772	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-138	BAFF24UDPFFHSC1003	04-Aug-24	25	75	5.22891	Undetermined	XXXX							Unidentified tissue	Parts		0.02939	0.02939			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-138	BAFF24UDPFFHSC1003	04-Aug-24	25	75	5.22891	Undetermined	XXXX							Unidentified tissue	Parts		0.24898	0.24898			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-139	BAFF24UDPFFHSC1004	04-Aug-24	100	100	12.28651	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	1	0.00643	0.00643	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-139	BAFF24UDPFFHSC1004	04-Aug-24	100	100	12.28651	Non-Food	Non-Food	Annelida		Polychaeta	Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet. (tubes only)	Parts		n/a	n/a	n/a	Tube only	Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-139	BAFF24UDPFFHSC1004	04-Aug-24	100	100	12.28651	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-139	BAFF24UDPFFHSC1004	04-Aug-24	100	100	12.28651	Benthic	POSE	Annelida		Polychaeta	Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet.	Parts		0.86846	0.86846	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-139	BAFF24UDPFFHSC1004	04-Aug-24	100	100	12.28651	Undetermined	XXXX							Unidentified tissue	Parts		2.36921	2.36921			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-140	BAFF24UDPFFHSC1005	04-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	1	0.04714	0.04714	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	Oedicerotidae indet.	A	1	0.00980	0.00980	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	Oedicerotidae indet.	A	1	0.02665	0.02665			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Amphipoda indet.	A	1	0.00700	0.00700			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	3	0.02114	0.00705	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	A	2	0.02309	0.01155			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.06751	0.06751			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.08213	0.08213			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Planktonic	MOGA	Mollusca						Limacina sp.	A	43	0.44344	0.01031			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Planktonic	MOGA	Mollusca						Limacina sp.	A	156	1.54506	0.00990	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Non-Food	Non-Food							Plant material	n/a		n/a	n/a	n/a		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Planktonic	PIXX	Chordata	Vertebrata	Teleostei				Teleostei indet.	Parts		0.28482	0.28482	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Benthic	PIXX	Chordata						Ammodytidae indet.	A	1	2.68343	2.68343	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Undetermined	XXXX							Unidentified tissue	Parts		0.01423	0.01423			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-141	BAFF24UDPFFHSC1006	04-Aug-24	25	100	7.11293	Undetermined	XXXX							Unidentified tissue	Parts		0.23084	0.23084			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-142	BAFF24UDPFFHSC1007	04-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-143	BAFF24UDPFFHSC1008	04-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-144	BAFF24UDPFFHSC1009	04-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-145	BAFF24UDPFFHSC1010	04-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-146	BAFF24UDPFFHSC1011	04-Aug-24	75	100	9.72847	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Amphipoda indet.	A	1	0.04268	0.04268	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-146	BAFF24UDPFFHSC1011	04-Aug-24	75	100	9.72847	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	1	0.01287	0.01287	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-146	BAFF24UDPFFHSC1011	04-Aug-24	75	100	9.72847	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.24309	0.24309			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-146	BAFF24UDPFFHSC1011	04-Aug-24	75	100	9.72847	Planktonic	MOGA	Mollusca						Limacina sp.	A	3	0.02241	0.00747			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-146	BAFF24UDPFFHSC1011	04-Aug-24	75	100	9.72847	Planktonic	MOGA	Mollusca						Limacina sp.	A	264	2.14434	0.00812	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-146	BAFF24UDPFFHSC1011	04-Aug-24	75	100	9.72847	Non-Food	Non-Food							Plant material	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-146	BAFF24UDPFFHSC1011	04-Aug-24	75	100	9.72847	Undetermined	XXXX							Unidentified tissue	Parts		1.06683	1.06683			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-147	BAFF24UDPFFHSC1012	04-Aug-24	75	75	29.68573	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	1	0.01367	0.01367	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-147	BAFF24UDPFFHSC1012	04-Aug-24	75	75	29.68573	Benthic	EURA	Annelida		Polychaeta	Echiura			Echiura indet	A	3	1.83334	0.61111	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-147	BAFF24UDPFFHSC1012	04-Aug-24	75	75	29.68573	Non-Food	Non-Food							Plant material	n/a		n/a	n/a	n/a		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-147	BAFF24UDPFFHSC1012	04-Aug-24	75	75	29.68573	Planktonic	PIXX	Chordata	Vertebrata	Teleostei				Teleostei indet.	Parts		0.59125	0.59125	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-147	BAFF24UDPFFHSC1012	04-Aug-24	75	75	29.68573	Planktonic	PIXX	Chordata	Vertebrata	Teleostei				Teleostei indet.	Parts		2.01169	2.01169			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-147	BAFF24UDPFFHSC1012	04-Aug-24	75	75	29.68573	Benthic	PIXX	Chordata						Ammodytidae indet.	Int	1	5.39547	5.39547	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-147	BAFF24UDPFFHSC1012	04-Aug-24	75	75	29.68573	Undetermined	XXXX							Unidentified tissue	Parts		0.27202	0.27202			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-147	BAFF24UDPFFHSC1012	04-Aug-24	75	75	29.68573	Undetermined	XXXX							Unidentified tissue	Parts		1.11386	1.11386			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-148	BAFF24UDPFFHSC1013	04-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-149	BAFF24UDPFFHSC1014	04-Aug-24	50	100	5.37250	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	A/parts	1	0.00542	0.00542	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-149	BAFF24UDPFFHSC1014	04-Aug-24	50	100	5.37250	Planktonic	MOGA	Mollusca						Limacina sp.	A	2	0.02767	0.01384	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-149	BAFF24UDPFFHSC1014	04-Aug-24	50	100	5.37250	Non-Food	Non-Food	Annelida		Polychaeta	Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet. (tubes only)	Parts		n/a	n/a	n/a	Tube only	Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-149	BAFF24UDPFFHSC1014	04-Aug-24	50	100	5.37250	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-149	BAFF24UDPFFHSC1014	04-Aug-24	50	100	5.37250	Benthic	POSE	Annelida		Polychaeta	Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet.	Parts		0.33134	0.33134	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-149	BAFF24UDPFFHSC1014	04-Aug-24	50	100	5.37250	Benthic	POSE	Annelida		Polychaeta	Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet.	Parts		1.16625	1.16625			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-149	BAFF24UDPFFHSC1014	04-Aug-24	50	100	5.37250	Undetermined	XXXX							Unidentified tissue	Parts		0.52528	0.52528			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-149	BAFF24UDPFFHSC1014	04-Aug-24	50	100	5.37250	Undetermined	XXXX							Unidentified tissue	Parts		1.35253	1.35253			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-150	BAFF24UDPFFHSC1015	04-Aug-24	50	100	4.47916	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	A	3	0.02231	0.00744	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-150	BAFF24UDPFFHSC1015	04-Aug-24	50	100	4.47916	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	A/parts	7	0.03244	0.00463			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-150	BAFF24UDPFFHSC1015	04-Aug-24	50	100	4.47916	Planktonic	MOGA	Mollusca						Limacina sp.	A/parts	1	0.01247	0.01247	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-150	BAFF24UDPFFHSC1015	04-Aug-24	50	100	4.47916	Planktonic	MOGA	Mollusca						Limacina sp.	A/parts	5	0.02946	0.00589			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-150	BAFF24UDPFFHSC1015	04-Aug-24	50	100	4.47916	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-150	BAFF24UDPFFHSC1015	04-Aug-24	50	100	4.47916	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-150	BAFF24UDPFFHSC1015	04-Aug-24	50	100	4.47916	Undetermined	XXXX							Unidentified tissue	Parts		0.49490	0.49490			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-150	BAFF24UDPFFHSC1015	04-Aug-24	50	100	4.47916	Undetermined	XXXX							Unidentified tissue	Parts		1.35391	1.35391			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-151	BAFF24UDPFFHSC1016	04-Aug-24	50	100	3.89131	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Amphipoda indet.	A	1	0.00243	0.00243	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-151	BAFF24UDPFFHSC1016	04-Aug-24	50	100	3.89131	Undetermined	XXXX							Unidentified tissue	Parts		1.72052	1.72052			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-152	BAFF24UDPFFHSC1017	04-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-153	BAFF24UDPFFHSC1018	04-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-154	BAFF24UDPFFHSC1019	04-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-155	BAFF24UDPFFHSC1020	04-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	

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Abundance and biomass data in long format for WSP Baffinland MEEMP, 2024.

Client	Project	Year	Fish	Biologica Sample ID	Client Sample ID	Date Sampled	% Fullness	% Material Digested	Full Stomach Weight (g)	Source	Group Code	Phylum	Subphylum	Class	Subclass	Order	Family	Taxon	Stage	Total Abundance	Total WW (g)	WW/Individual (g)	Total Unique Taxa	Comments	Processing Note
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-156	BAFF24UDPFFHSC1021	04-Aug-24	50	100	3.88662	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Atylidae	Atylus sp.	Int	1	0.00700	0.00700			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-156	BAFF24UDPFFHSC1021	04-Aug-24	50	100	3.88662	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Atylidae	Atylus sp.	A	1	0.34974	0.34974	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-156	BAFF24UDPFFHSC1021	04-Aug-24	50	100	3.88662	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	5	0.06878	0.01376	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-156	BAFF24UDPFFHSC1021	04-Aug-24	50	100	3.88662	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Hyperiidea indet.	A/parts	1	0.04328	0.04328	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-156	BAFF24UDPFFHSC1021	04-Aug-24	50	100	3.88662	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Lysianassoidea indet.	A	1	0.32107	0.32107	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-156	BAFF24UDPFFHSC1021	04-Aug-24	50	100	3.88662	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	26	0.24481	0.00942	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-156	BAFF24UDPFFHSC1021	04-Aug-24	50	100	3.88662	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	Parts		0.04789	0.04789			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-156	BAFF24UDPFFHSC1021	04-Aug-24	50	100	3.88662	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	A	1	0.03967	0.03967	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-156	BAFF24UDPFFHSC1021	04-Aug-24	50	100	3.88662	Planktonic	MOGA	Mollusca						Limacina sp.	A	22	0.16660	0.00757			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-156	BAFF24UDPFFHSC1021	04-Aug-24	50	100	3.88662	Planktonic	MOGA	Mollusca						Limacina sp.	A	244	1.41971	0.00582	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-156	BAFF24UDPFFHSC1021	04-Aug-24	50	100	3.88662	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-156	BAFF24UDPFFHSC1021	04-Aug-24	50	100	3.88662	Undetermined	XXXX							Unidentified tissue	Parts		0.32578	0.32578			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-156	BAFF24UDPFFHSC1021	04-Aug-24	50	100	3.88662	Undetermined	XXXX							Unidentified tissue	Parts		3.18934	3.18934			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-157	BAFF24UDPFFHSC1022	04-Aug-24	75	100	5.37813	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	A	6	0.04511	0.00752			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-157	BAFF24UDPFFHSC1022	04-Aug-24	75	100	5.37813	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	A	7	0.02585	0.00369	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-157	BAFF24UDPFFHSC1022	04-Aug-24	75	100	5.37813	Planktonic	MOGA	Mollusca						Limacina sp.	A	3	0.03644	0.01215	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-157	BAFF24UDPFFHSC1022	04-Aug-24	75	100	5.37813	Non-Food	Non-Food							Plant material	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-157	BAFF24UDPFFHSC1022	04-Aug-24	75	100	5.37813	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-157	BAFF24UDPFFHSC1022	04-Aug-24	75	100	5.37813	Planktonic	PIXX	Chordata	Vertebrata	Teleostei				Teleostei indet.	Parts		0.20945	0.20945	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-157	BAFF24UDPFFHSC1022	04-Aug-24	75	100	5.37813	Undetermined	XXXX							Unidentified tissue	Parts		0.24334	0.24334			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-157	BAFF24UDPFFHSC1022	04-Aug-24	75	100	5.37813	Undetermined	XXXX							Unidentified tissue	Parts		0.70190	0.70190			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-158	BAFF24UDPFFHSC1023	04-Aug-24	25	100	2.65917	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	2	0.11111	0.05556	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-158	BAFF24UDPFFHSC1023	04-Aug-24	25	100	2.65917	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Hyperiidea indet.	A/parts	1	0.00376	0.00376	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-158	BAFF24UDPFFHSC1023	04-Aug-24	25	100	2.65917	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	1	0.00420	0.00420			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-158	BAFF24UDPFFHSC1023	04-Aug-24	25	100	2.65917	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	8	0.05738	0.00717	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-158	BAFF24UDPFFHSC1023	04-Aug-24	25	100	2.65917	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Mysis sp.	A	3	0.01762	0.00587	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-158	BAFF24UDPFFHSC1023	04-Aug-24	25	100	2.65917	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Parts		0.09659	0.09659			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-158	BAFF24UDPFFHSC1023	04-Aug-24	25	100	2.65917	Planktonic	MOGA	Mollusca						Limacina sp.	A	14	0.09068	0.00648	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-158	BAFF24UDPFFHSC1023	04-Aug-24	25	100	2.65917	Undetermined	XXXX							Unidentified tissue	Parts		0.10119	0.10119			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-158	BAFF24UDPFFHSC1023	04-Aug-24	25	100	2.65917	Undetermined	XXXX							Unidentified tissue	Parts		1.59613	1.59613			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-159	BAFF24UDPFFHSC1024	05-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-160	BAFF24UDPFFHSC1025	05-Aug-24	75	100	10.80723	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.33263	0.33263	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-160	BAFF24UDPFFHSC1025	05-Aug-24	75	100	10.80723	Undetermined	XXXX							Unidentified tissue	Parts		0.10665	0.10665			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-160	BAFF24UDPFFHSC1025	05-Aug-24	75	100	10.80723	Undetermined	XXXX							Unidentified tissue	Parts		2.39413	2.39413			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-161	BAFF24UDPFFHSC1026	05-Aug-24	50	100	6.73290	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	3	0.04531	0.01510	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-161	BAFF24UDPFFHSC1026	05-Aug-24	50	100	6.73290	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	2	0.01177	0.00589	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-161	BAFF24UDPFFHSC1026	05-Aug-24	50	100	6.73290	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	1	0.00558	0.00558	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-161	BAFF24UDPFFHSC1026	05-Aug-24	50	100	6.73290	Benthic	INDI	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera		Tipuloidea indet.	L	2	0.03366	0.01683	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-161	BAFF24UDPFFHSC1026	05-Aug-24	50	100	6.73290	Undetermined	XXXX							Unidentified tissue	Parts		0.85902	0.85902			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-162	BAFF24UDPFFHSC1027	05-Aug-24	0	100	3.74044	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Empty Stomach	n/a	n/a	n/a	n/a	n/a	Empty Stomach	Empty Stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-163	BAFF24UDPFFHSC1028	05-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-164	BAFF24UDPFFHSC1029	05-Aug-24	0	100	4.55122	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Empty Stomach	n/a	n/a	n/a	n/a	n/a	Empty Stomach	Empty Stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-165	BAFF24UDPFFHSC1030	05-Aug-24	50	100	6.46095	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	1	0.08939	0.08939	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-165	BAFF24UDPFFHSC1030	05-Aug-24	50	100	6.46095	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	1	0.01390	0.01390	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-165	BAFF24UDPFFHSC1030	05-Aug-24	50	100	6.46095	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	Int	3	0.00731	0.00244			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-165	BAFF24UDPFFHSC1030	05-Aug-24	50	100	6.46095	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-165	BAFF24UDPFFHSC1030	05-Aug-24	50	100	6.46095	Undetermined	XXXX							Unidentified tissue	Parts		1.54327	1.54327			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-166	BAFF24UDPFFHSC1031	05-Aug-24	75	100	7.11023	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Amphipoda indet.	A/parts		0.36377	0.36377	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-166	BAFF24UDPFFHSC1031	05-Aug-24	75	100	7.11023	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	A	1	0.00863	0.00863	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-166	BAFF24UDPFFHSC1031	05-Aug-24	75	100	7.11023	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-166	BAFF24UDPFFHSC1031	05-Aug-24	75	100	7.11023	Undetermined	XXXX							Unidentified tissue	Parts		1.36625	1.36625			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-167	BAFF24UDPFFHSC1032	05-Aug-24	0	100	3.31821	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-168	BAFF24UDPFFHSC1033	05-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-169	BAFF24UDPFFHSC1034	05-Aug-24	50	100	8.91804	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Lysianassoidea indet.	A/parts		0.00404	0.00404	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-169	BAFF24UDPFFHSC1034	05-Aug-24	50	100	8.91804	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	A	2	0.01122	0.00561	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-169	BAFF24UDPFFHSC1034	05-Aug-24	50	100	8.91804	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.29161	0.29161			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-169	BAFF24UDPFFHSC1034	05-Aug-24	50	100	8.91804	Planktonic	MOGA	Mollusca						Limacina sp.	A	8	0.07305	0.00913			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-169	BAFF24UDPFFHSC1034	05-Aug-24	50	100	8.91804	Planktonic	MOGA	Mollusca						Limacina sp.	A	12	0.08624	0.00719	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-169	BAFF24UDPFFHSC1034	05-Aug-24	50	100	8.91804	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-169	BAFF24UDPFFHSC1034	05-Aug-24	50	100	8.91804	Planktonic	PIXX	Chordata	Vertebrata	Teleostei				Teleostei indet.	Parts		0.22656	0.22656			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-169	BAFF24UDPFFHSC1034	05-Aug-24	50	100	8.91804	Planktonic	PIXX	Chordata	Vertebrata	Teleostei				Teleostei indet.	Parts		0.39078	0.39078	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-169	BAFF24UDPFFHSC1034	05-Aug-24	50	100	8.91804	Undetermined	XXXX							Unidentified tissue	Parts		0.48453	0.48453			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-169	BAFF24UDPFFHSC1034	05-Aug-24	50	100	8.91804	Undetermined	XXXX							Unidentified tissue	Parts		1.16445	1.16445			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-170	BAFF24UDPFFHSC1035	05-Aug-24	50	100	3.47132	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Lysianassoidea indet.	Int	1	0.01171	0.01171	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-170	BAFF24UDPFFHSC1035	05-Aug-24	50	100	3.47132	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.01436	0.01436			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-170	BAFF24UDPFFHSC1035	05-Aug-24	50	100	3.47132	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-170	BAFF24UDPFFHSC1035	05-Aug-24	50	100	3.47132	Undetermined	XXXX							Unidentified tissue	Parts		1.22313	1.22313			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-171	BAFF24UDPFFHSC1036	05-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-172	BAFF24UDPFFHSC1037	08-Aug-24	100	100	32.23203	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Atylidae	Atylus sp.	A	1	0.12187	0.12187	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-172	BAFF24UDPFFHSC1037	08-Aug-24	100	100	32.23203	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.10489	0.10489			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-172	BAFF24UDPFFHSC1037	08-Aug-24	100	100	32.23203	Non-food	Non-food	Annelida		Polychaeta	Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet. (tubes only)	Parts		n/a	n/a	n/a	Tube only	Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-172	BAFF24UDPFFHSC1037	08-Aug-24	100	100	32.23203	Non-Food	Non-Food							Plant material	n/a		n/a	n/a	n/a	Macro Algae	Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-172	BAFF24UDPFFHSC1037	08-Aug-24	100	100	32.23203	Benthic	POSE	Annelida		Polychaeta	Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet.	A/parts	5	13.08792	2.61758			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-172	BAFF24UDPFFHSC1037	08-Aug-24	100	100	32.23203	Benthic	POSE	Annelida		Polychaeta	Sedentaria	Terebellida	Pectinariidae	Pectinariidae indet.	A/parts		3.48003	3.48003	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-172	BAFF24UDPFFHSC1037	08-Aug-24	100	100	32.23203	Undetermined	XXXX							Unidentified tissue	Parts		0.02148	0.02148			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-172	BAFF24UDPFFHSC1037	08-Aug-24	100	100	32.23203	Undetermined	XXXX							Unidentified tissue	Parts		0.03531	0.03531			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-173	BAFF24UDPFFHSC1038	08-Aug-24	75	50	9.39899	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Atylidae	Atylus sp.	A	1	0.91183	0.91183			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-173	BAFF24UDPFFHSC1038	08-Aug-24	75	50	9.39899	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Atylidae	Atylus sp.	Int	2	0.55438	0.27719	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-173	BAFF24UDPFFHSC1038	08-Aug-24	75	50	9.39899	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	2	0.06711	0.03356			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-173	BAFF24UDPFFHSC1038	08-Aug-24	75	50	9.39899	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	2	0.13611	0.06806	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-173	BAFF24UDPFFHSC1038	08-Aug-24	75	50	9.39899	Non-Food	Non-Food							Plant material	n/a		n/a	n/a	n/a	Macro Algae	Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-174	BAFF24UDPFFHSC1039	08-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-175	BAFF24UDPFFHSC1040	08-Aug-24	50	100	9.57372	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Atylidae	Atylus sp.	A	1	0.13904	0.13904	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-175	BAFF24UDPFFHSC1040	08-Aug-24	50	100	9.57372	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Hyperiidea indet.	J	1	0.00235	0.00235			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-175	BAFF24UDPFFHSC1040	08-Aug-24	50	100	9.57372	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Hyperiidea indet.	A	1	0.00715	0.00715	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-175	BAFF24UDPFFHSC1040	08-Aug-24	50	100	9.57372	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	11	0.10618	0.00965	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-175	BAFF24UDPFFHSC1040	08-Aug-24	50	100	9.57372	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	1	0.00769	0.00769	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-175	BAFF24UDPFFHSC1040	08-Aug-24	50	100	9.57372	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.17221	0.17221			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-175	BAFF24UDPFFHSC1040	08-Aug-24	50	100	9.57372	Undetermined	XXXX							Unidentified tissue	Parts		2.57326	2.57326			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-176	BAFF24UREFFHSC2001	03-Aug-24	0	100	2.29935	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Empty Stomach	n/a	n/a	n/a	n/a	n/a	Empty Stomach	Empty Stomach

biologica

Abundance and biomass data in long format for WSP Baffinland MEEMP, 2024.

Client	Project	Year	Fish	Biologica Sample ID	Client Sample ID	Date Sampled	% Fullness	% Material Digested	Full Stomach Weight (g)	Source	Group Code	Phylum	Subphylum	Class	Subclass	Order	Family	Taxon	Stage	Total Abundance	Total WW (g)	WW/Individual (g)	Total Unique Taxa	Comments	Processing Note
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-177	BAFF24UREFFHSC2002	03-Aug-24	25	100	10.04563	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Amphipoda indet.	Int	1	0.00497	0.00497	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-177	BAFF24UREFFHSC2002	03-Aug-24	25	100	10.04563	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus sp.	A	6	0.03262	0.00544	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-177	BAFF24UREFFHSC2002	03-Aug-24	25	100	10.04563	Undetermined	PIXX	Chordata	Vertebrata	Teleostei				Teleostei indet.	Eggs	40	0.21704	0.00543	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-177	BAFF24UREFFHSC2002	03-Aug-24	25	100	10.04563	Undetermined	XXXX							Unidentified tissue	Parts		0.32927	0.32927			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-178	BAFF24UREFFHSC2003	03-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-179	BAFF24UREFFHSC2004	03-Aug-24	0	100	12.76674	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Hyperiidea indet.	A	1	0.01846	0.01846	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-179	BAFF24UREFFHSC2004	03-Aug-24	0	100	12.76674	Planktonic	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.01279	0.01279			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-179	BAFF24UREFFHSC2004	03-Aug-24	0	100	12.76674	Planktonic	MOGA	Mollusca						Limacina sp.	Parts		0.08992	0.08992	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-179	BAFF24UREFFHSC2004	03-Aug-24	0	100	12.76674	Planktonic	PIXX	Chordata	Vertebrata	Teleostei				Teleostei indet.	Parts		0.31849	0.31849	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-179	BAFF24UREFFHSC2004	03-Aug-24	0	100	12.76674	Undetermined	XXXX							Unidentified tissue	Parts		1.11205	1.11205			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-180	BAFF24UREFFHSC2005	03-Aug-24	75	100	6.91222	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	5	0.04320	0.00864	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-180	BAFF24UREFFHSC2005	03-Aug-24	75	100	6.91222	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	8	0.02627	0.00328	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-180	BAFF24UREFFHSC2005	03-Aug-24	75	100	6.91222	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.63190	0.63190			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-180	BAFF24UREFFHSC2005	03-Aug-24	75	100	6.91222	Non-Food	Non-Food							Plant material	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-180	BAFF24UREFFHSC2005	03-Aug-24	75	100	6.91222	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-180	BAFF24UREFFHSC2005	03-Aug-24	75	100	6.91222	Undetermined	XXXX							Unidentified tissue	Parts		1.74253	1.74253			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-181	BAFF24UREFFHSC2006	03-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-182	BAFF24UREFFHSC2007	03-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-183	BAFF24UREFFHSC2008	03-Aug-24	0	100	5.56602	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Empty Stomach	n/a	n/a	n/a	n/a	n/a	Empty Stomach	Empty Stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-184	BAFF24UREFFHSC2009	03-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-185	BAFF24UREFFHSC2010	03-Aug-24	0	100	1.25097	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Empty Stomach	n/a	n/a	n/a	n/a	n/a	Empty Stomach	Empty Stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-186	BAFF24UREFFHSC2011	03-Aug-24	25	50	8.99201	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	1	0.00241	0.00241	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-186	BAFF24UREFFHSC2011	03-Aug-24	25	50	8.99201	Planktonic	MOGA	Mollusca						Limacina sp.	A	3	0.03780	0.01260			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-186	BAFF24UREFFHSC2011	03-Aug-24	25	50	8.99201	Planktonic	MOGA	Mollusca						Limacina sp.	A	71	0.70461	0.00992	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-186	BAFF24UREFFHSC2011	03-Aug-24	25	50	8.99201	Undetermined	XXXX							Unidentified tissue	Parts		0.08713	0.08713			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-187	BAFF24UREFFHSC2012	03-Aug-24	25	75	9.01641	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.06189	0.06189	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-187	BAFF24UREFFHSC2012	03-Aug-24	25	75	9.01641	Planktonic	MOGA	Mollusca						Limacina sp.	A/parts	8	0.04805	0.00601			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-187	BAFF24UREFFHSC2012	03-Aug-24	25	75	9.01641	Planktonic	MOGA	Mollusca						Limacina sp.	A	45	0.38484	0.00855	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-187	BAFF24UREFFHSC2012	03-Aug-24	25	75	9.01641	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-187	BAFF24UREFFHSC2012	03-Aug-24	25	75	9.01641	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-187	BAFF24UREFFHSC2012	03-Aug-24	25	75	9.01641	Undetermined	XXXX							Unidentified tissue	Parts		1.36055	1.36055			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-188	BAFF24UREFFHSC2013	09-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-189	BAFF24UREFFHSC2014	09-Aug-24	0	100	3.59288	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Empty Stomach	n/a	n/a	n/a	n/a	n/a	Empty Stomach	Empty Stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-190	BAFF24UREFFHSC2015	09-Aug-24	0	100	2.25804	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Empty Stomach	n/a	n/a	n/a	n/a	n/a	Empty Stomach	Empty Stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-191	BAFF24UREFFHSC2016	09-Aug-24	25	100	4.38341	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	1	0.00529	0.00529	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-191	BAFF24UREFFHSC2016	09-Aug-24	25	100	4.38341	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	3	0.09830	0.03277	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-191	BAFF24UREFFHSC2016	09-Aug-24	25	100	4.38341	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.01361	0.01361			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-191	BAFF24UREFFHSC2016	09-Aug-24	25	100	4.38341	Undetermined	XXXX							Unidentified tissue	Parts		0.26617	0.26617			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-192	BAFF24UREFFHSC2017	09-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-193	BAFF24UREFFHSC2018	09-Aug-24	25	100	1.15140	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	1	0.00284	0.00284	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-194	BAFF24UREFFHSC2019	09-Aug-24	50	75	2.97185	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	2	0.04681	0.02341	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-194	BAFF24UREFFHSC2019	09-Aug-24	50	75	2.97185	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	1	0.00219	0.00219			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-194	BAFF24UREFFHSC2019	09-Aug-24	50	75	2.97185	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	J	2	0.00437	0.00219	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-194	BAFF24UREFFHSC2019	09-Aug-24	50	75	2.97185	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.00693	0.00693			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-194	BAFF24UREFFHSC2019	09-Aug-24	50	75	2.97185	Parasite	PLTY	Platyhelminthes						Cestoda indet.	L	8	0.00126	0.00016	1	Plerocercoid	Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-194	BAFF24UREFFHSC2019	09-Aug-24	50	75	2.97185	Undetermined	XXXX							Unidentified tissue	Parts		0.41897	0.41897			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-195	BAFF24UREFFHSC2020	09-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-196	BAFF24UREFFHSC2021	09-Aug-24	0	100	1.78677	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Empty Stomach	n/a	n/a	n/a	n/a	n/a	Empty Stomach	Empty Stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-197	BAFF24UREFFHSC2022	09-Aug-24	25	75	2.40808	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	1	0.03430	0.03430	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-197	BAFF24UREFFHSC2022	09-Aug-24	25	75	2.40808	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Parts		0.00711	0.00711		Cestode coming out of posterior	Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-197	BAFF24UREFFHSC2022	09-Aug-24	25	75	2.40808	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.01612	0.01612			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-197	BAFF24UREFFHSC2022	09-Aug-24	25	75	2.40808	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.04598	0.04598			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-197	BAFF24UREFFHSC2022	09-Aug-24	25	75	2.40808	Planktonic	MOGA	Mollusca						Limacina sp.	Parts		0.00570	0.00570	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-198	BAFF24UREFFHSC2023	09-Aug-24	50	100	6.02460	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	1	0.00417	0.00417			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-198	BAFF24UREFFHSC2023	09-Aug-24	50	100	6.02460	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	3	0.03284	0.01095			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-198	BAFF24UREFFHSC2023	09-Aug-24	50	100	6.02460	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	3	0.19941	0.06647	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-198	BAFF24UREFFHSC2023	09-Aug-24	50	100	6.02460	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Oedicerotidae	Oedicerotidae indet.	A	1	0.00754	0.00754	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-198	BAFF24UREFFHSC2023	09-Aug-24	50	100	6.02460	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	1	0.00369	0.00369	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-198	BAFF24UREFFHSC2023	09-Aug-24	50	100	6.02460	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.02296	0.02296			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-198	BAFF24UREFFHSC2023	09-Aug-24	50	100	6.02460	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.03657	0.03657			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-198	BAFF24UREFFHSC2023	09-Aug-24	50	100	6.02460	Planktonic	MOGA	Mollusca						Limacina sp.	A	14	0.18541	0.01324			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-198	BAFF24UREFFHSC2023	09-Aug-24	50	100	6.02460	Planktonic	MOGA	Mollusca						Limacina sp.	A	69	0.71132	0.01031	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-198	BAFF24UREFFHSC2023	09-Aug-24	50	100	6.02460	Planktonic	MOGA	Mollusca						Limacina sp.	Parts		0.07382	0.07382			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-198	BAFF24UREFFHSC2023	09-Aug-24	50	100	6.02460	Parasite	PLTY	Platyhelminthes						Cestoda indet.	L	2	0.00037	0.00019	1	Plerocercoid	Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-198	BAFF24UREFFHSC2023	09-Aug-24	50	100	6.02460	Undetermined	XXXX							Unidentified tissue	Parts		0.12769	0.12769			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-198	BAFF24UREFFHSC2023	09-Aug-24	50	100	6.02460	Undetermined	XXXX							Unidentified tissue	Parts		0.81825	0.81825			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-199	BAFF24UREFFHSC2024	09-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	1	0.05481	0.05481			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	J	3	0.03583	0.01194			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	9	0.39149	0.04350			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	15	0.22166	0.01478	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Hyperiidea indet.	A	1	0.11193	0.11193	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	J	1	0.00496	0.00496			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	18	0.06464	0.00359	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.06745	0.06745			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.66094	0.66094			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Planktonic	MOGA	Mollusca						Limacina sp.	A	34	0.22113	0.00650			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Planktonic	MOGA	Mollusca						Limacina sp.	A	170	1.33074	0.00783	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Non-Food	Non-Food							Plant material	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Parasite	PLTY	Platyhelminthes						Cestoda indet.	L	6	0.00574	0.00096	1	Plerocercoid	Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Undetermined	XXXX							Unidentified tissue	Parts		0.14484	0.14484			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-200	BAFF24UREFFHSC2025	09-Aug-24	100	75	12.85457	Undetermined	XXXX							Unidentified tissue	Parts		3.29996	3.29996			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-201	BAFF24UREFFHSC2026	09-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-202	BAFF24UREFFHSC2027	09-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-203	BAFF24UREFFHSC2028	09-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-204	BAFF24UREFFHSC2029	09-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-205	BAFF24UREFFHSC2030	09-Aug-24	50	75	7.13678	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	3	0.03996	0.01332	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-205	BAFF24UREFFHSC2030	09-Aug-24	50	75	7.13678	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	2	0.00824	0.00412	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-205	BAFF24UREFFHSC2030	09-Aug-24	50	75	7.13678	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.01692	0.01692			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-205	BAFF24UREFFHSC2030	09-Aug-24	50	75	7.13678	Planktonic	MOGA	Mollusca						Limacina sp.	A	71	0.43167	0.00608	1		Found inside of the stomach

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Abundance and biomass data in long format for WSP Baffinland MEEMP, 2024.

Client	Project	Year	Fish	Biologica Sample ID	Client Sample ID	Date Sampled	% Fullness	% Material Digested	Full Stomach Weight (g)	Source	Group Code	Phylum	Subphylum	Class	Subclass	Order	Family	Taxon	Stage	Total Abundance	Total WW (g)	WW/Individual (g)	Total Unique Taxa	Comments	Processing Note
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-205	BAFF24UREFFHSC2030	09-Aug-24	50	75	7.13678	Undetermined	XXXX							Unidentified tissue	Parts		0.56203	0.56203			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-206	BAFF24UREFFHSC2031	07-Aug-24	50	50	6.49754	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	3	0.03153	0.01051	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-206	BAFF24UREFFHSC2031	07-Aug-24	50	50	6.49754	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	4	0.01035	0.00259	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-206	BAFF24UREFFHSC2031	07-Aug-24	50	50	6.49754	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.01001	0.01001			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-206	BAFF24UREFFHSC2031	07-Aug-24	50	50	6.49754	Planktonic	MOGA	Mollusca						Limacina sp.	A	49	0.52681	0.01075	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-206	BAFF24UREFFHSC2031	07-Aug-24	50	50	6.49754	Planktonic	MOGA	Mollusca						Limacina sp.	Parts		0.23724	0.23724			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-206	BAFF24UREFFHSC2031	07-Aug-24	50	50	6.49754	Non-Food	Non-Food							Plant material	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-206	BAFF24UREFFHSC2031	07-Aug-24	50	50	6.49754	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-206	BAFF24UREFFHSC2031	07-Aug-24	50	50	6.49754	Parasite	PLTY	Platyhelminthes						Cestoda indet.	L	2	0.00047	0.00024	1	Plerocercoid	Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-207	BAFF24UREFFHSC2032	07-Aug-24	0	100	4.61607	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Empty Stomach	n/a	n/a	n/a	n/a	n/a	Empty Stomach	Empty Stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-208	BAFF24UREFFHSC2033	08-Aug-24	0	100	1.67066	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Empty Stomach	n/a	n/a	n/a	n/a	n/a	Empty Stomach	Empty Stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-209	BAFF24UREFFHSC2034	08-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-210	BAFF24UREFFHSC2035	08-Aug-24	75	25	4.66901	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	2	0.10272	0.05136	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-210	BAFF24UREFFHSC2035	08-Aug-24	75	25	4.66901	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	1	0.00262	0.00262	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-210	BAFF24UREFFHSC2035	08-Aug-24	75	25	4.66901	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.00553	0.00553			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-210	BAFF24UREFFHSC2035	08-Aug-24	75	25	4.66901	Planktonic	MOGA	Mollusca						Limacina sp.	A	121	0.54841	0.00453	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-210	BAFF24UREFFHSC2035	08-Aug-24	75	25	4.66901	Planktonic	MOGA	Mollusca						Limacina sp.	Parts		0.05121	0.05121			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-211	BAFF24UREFFHSC2036	16-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-212	BAFF24UREFFHSC2037	16-Aug-24	25	25	7.20518	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A	1	0.04173	0.04173	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-212	BAFF24UREFFHSC2037	16-Aug-24	25	25	7.20518	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto sp.	A	1	0.00748	0.00748	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-212	BAFF24UREFFHSC2037	16-Aug-24	25	25	7.20518	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.00150	0.00150			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-212	BAFF24UREFFHSC2037	16-Aug-24	25	25	7.20518	Planktonic	MOGA	Mollusca						Limacina sp.	A	28	0.20931	0.00748	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-213	BAFF24UREFFHSC2038	16-Aug-24	25	50	6.06110	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	3	0.02670	0.00890	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-213	BAFF24UREFFHSC2038	16-Aug-24	25	50	6.06110	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Parts		0.00520	0.00520	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-213	BAFF24UREFFHSC2038	16-Aug-24	25	50	6.06110	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.00711	0.00711			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-213	BAFF24UREFFHSC2038	16-Aug-24	25	50	6.06110	Planktonic	MOGA	Mollusca						Limacina sp.	A	19	0.11851	0.00624	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-213	BAFF24UREFFHSC2038	16-Aug-24	25	50	6.06110	Undetermined	XXXX							Unidentified tissue	Parts		0.06011	0.06011			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-214	BAFF24UREFFHSC2039	16-Aug-24	50	50	2.15468	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	J	5	0.34700	0.06940	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-214	BAFF24UREFFHSC2039	16-Aug-24	50	50	2.15468	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.06312	0.06312			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-214	BAFF24UREFFHSC2039	16-Aug-24	50	50	2.15468	Planktonic	MOGA	Mollusca						Limacina sp.	A	28	0.16975	0.00606	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-214	BAFF24UREFFHSC2039	16-Aug-24	50	50	2.15468	Non-Food	Non-Food							Rocks	n/a		n/a	n/a	n/a		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Fourhorn Sculpin	ms24-033-214	BAFF24UREFFHSC2039	16-Aug-24	50	50	2.15468	Undetermined	XXXX							Unidentified tissue	Parts		0.02933	0.02933			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-215	BAFF24UDPFARCH4001	07-Aug-24	25	100	3.60282	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto sp.	A/parts	2	0.02981	0.01491	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-215	BAFF24UDPFARCH4001	07-Aug-24	25	100	3.60282	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.03441	0.03441			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-216	BAFF24UDPFARCH4002	07-Aug-24	50	50	7.22002	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto sp.	Int	1	0.01044	0.01044			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-216	BAFF24UDPFARCH4002	07-Aug-24	50	50	7.22002	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto sp.	Int	1	0.01259	0.01259	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-216	BAFF24UDPFARCH4002	07-Aug-24	50	50	7.22002	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	3	0.01730	0.00577	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-216	BAFF24UDPFARCH4002	07-Aug-24	50	50	7.22002	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Mysis sp.	A	1	0.13752	0.13752			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-216	BAFF24UDPFARCH4002	07-Aug-24	50	50	7.22002	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Mysis sp.	A	2	0.08720	0.04360	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-216	BAFF24UDPFARCH4002	07-Aug-24	50	50	7.22002	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	3	0.01386	0.00462			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-216	BAFF24UDPFARCH4002	07-Aug-24	50	50	7.22002	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	8	0.02704	0.00338			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-216	BAFF24UDPFARCH4002	07-Aug-24	50	50	7.22002	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.01073	0.01073			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-217	BAFF24UDPFARCH4003	08-Aug-24	25	100	9.91444	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.13310	0.13310	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-217	BAFF24UDPFARCH4003	08-Aug-24	25	100	9.91444	Undetermined	XXXX							Unidentified tissue	Parts		0.53173	0.53173			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-218	BAFF24UDPFARCH4004	08-Aug-24	25	75	11.54355	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto sp.	Int	1	0.01159	0.01159	1		Found outside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-218	BAFF24UDPFARCH4004	08-Aug-24	25	75	11.54355	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Parts		0.35202	0.35202	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-219	BAFF24UDPFARCH4005	08-Aug-24	75	50	61.15800	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto sp.	A	19	5.58391	0.29389			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-219	BAFF24UDPFARCH4005	08-Aug-24	75	50	61.15800	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto sp.	Int	148	6.50573	0.04396	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-219	BAFF24UDPFARCH4005	08-Aug-24	75	50	61.15800	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	Onisimus sp.	Int	21	0.67294	0.03204	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-219	BAFF24UDPFARCH4005	08-Aug-24	75	50	61.15800	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Mysis sp.	Int	13	0.80171	0.06167	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-219	BAFF24UDPFARCH4005	08-Aug-24	75	50	61.15800	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		12.53758	12.53758			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-219	BAFF24UDPFARCH4005	08-Aug-24	75	50	61.15800	Planktonic	PIXX	Chordata	Vertebrata	Teleostei				Teleostei indet.	Parts		0.69258	0.69258	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-219	BAFF24UDPFARCH4005	08-Aug-24	75	50	61.15800	Undetermined	XXXX							Unidentified tissue	Parts		0.05063	0.05063			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-220	BAFF24UDPFARCH4006	08-Aug-24	25	100	10.49591	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	1	0.03002	0.03002			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-220	BAFF24UDPFARCH4006	08-Aug-24	25	100	10.49591	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	2	0.02906	0.01453	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-220	BAFF24UDPFARCH4006	08-Aug-24	25	100	10.49591	Planktonic	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.14814	0.14814		Appears to be primarily Hyperiidea ar	Found outside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-220	BAFF24UDPFARCH4006	08-Aug-24	25	100	10.49591	Planktonic	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.68550	0.68550			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-220	BAFF24UDPFARCH4006	08-Aug-24	25	100	10.49591	Undetermined	XXXX							Unidentified tissue	Parts		0.35092	0.35092			Found outside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-220	BAFF24UDPFARCH4006	08-Aug-24	25	100	10.49591	Undetermined	XXXX							Unidentified tissue	Parts		0.51862	0.51862			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-221	BAFF24UDPFARCH4007	08-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-222	BAFF24UDPFARCH4008	11-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-223	BAFF24UDPFARCH4009	11-Aug-24	25	100	6.80288	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	3	0.01965	0.00655	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-223	BAFF24UDPFARCH4009	11-Aug-24	25	100	6.80288	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	J	8	0.04374	0.00547	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-223	BAFF24UDPFARCH4009	11-Aug-24	25	100	6.80288	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.45257	0.45257			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-223	BAFF24UDPFARCH4009	11-Aug-24	25	100	6.80288	Undetermined	XXXX							Unidentified tissue	Parts		0.64983	0.64983			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-224	BAFF24UDPFARCH4010	11-Aug-24	50	75	6.35614	Planktonic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Hyperiidea indet.	Int	2	0.01113	0.00557	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-224	BAFF24UDPFARCH4010	11-Aug-24	50	75	6.35614	Planktonic	CRCO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Calanoida	Calanidae	Calanus hyperboreus	A	12	0.09760	0.00813	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-224	BAFF24UDPFARCH4010	11-Aug-24	50	75	6.35614	Planktonic	CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida indet.	Int	27	0.17543	0.00650	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-224	BAFF24UDPFARCH4010	11-Aug-24	50	75	6.35614	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.15103	0.15103			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-224	BAFF24UDPFARCH4010	11-Aug-24	50	75	6.35614	Undetermined	XXXX							Unidentified tissue	Parts		0.33127	0.33127			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-225	BAFF24UDPFARCH4011	17-Aug-24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not Processed	n/a	n/a	n/a	n/a	n/a	Sample on hold, not processed	
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-226	BAFF24UDPFARCH4012	17-Aug-24	25	100	7.23533	Undetermined	CRXX	Arthropoda	Crustacea					Crustacea indet.	Parts		0.43484	0.43484	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-226	BAFF24UDPFARCH4012	17-Aug-24	25	100	7.23533	Undetermined	XXXX							Unidentified tissue	Parts		0.54652	0.54652			Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-227	BAFF24UDPFARCH4013	18-Aug-24	25	100	8.44441	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	Int	4	0.08408	0.02102	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-227	BAFF24UDPFARCH4013	18-Aug-24	25	100	8.44441	Benthic	CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Lysianassoidea indet.	Int	1	0.00524	0.00524	1		Found inside of the stomach
WSP	Baffinland MEEMP	2024	Arctic Char	ms24-033-227	BAFF24UDPFARCH4013	18-Aug-24	25	100	8.44441	Undetermined	XXXX							Unidentified tissue	Parts		0.62088	0.62088			Found inside of the stomach

APPENDIX 8B-4

Macroalgal Identifications by University of New Brunswick, 2024

Macroalgal Identifications by Dr. Gary Saunders, University of New Brunswick, 2024

#	Division	Class	Order	Family	Name	Hab.	Coll.	Date	Geo.	Lat	Long	Basis of Record	Notable
GWS049942	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 3GWS	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	Human observation & Sanger sequencing	
GWS049952	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 3GWS	Upper intertidal on rock	O.Reeves	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049953	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 3GWS	Upper intertidal on rock	O.Reeves	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049955	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 3GWS	Upper intertidal on rock	O.Reeves	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049957	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 3GWS	Subtidal (5 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049967	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 3GWS	Subtidal (5 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049968	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 8GWS	Subtidal (17 m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049907	Chlorophyta	Ulvophyceae	Cladophorales	Cladophoraceae	Chaetomorpha melagonium (F.Weber & D.Mohr) Kützing	Subtidal (11.3 m) on Metal quadrat	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	Human observation & Sanger sequencing	
GWS049918	Chlorophyta	Ulvophyceae	Cladophorales	Cladophoraceae	Chaetomorpha melagonium (F.Weber & D.Mohr) Kützing	Subtidal (12.8 m) on Metal quadrat	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	Human observation & Sanger sequencing	
GWS049951A	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Ulothrix flacca (Dillwyn)Thuret	Upper intertidal on rock	O.Reeves	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation	
GWS049950	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Ulothrix sp. 1Nunavut	Upper intertidal on rock	O.Reeves	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	Sequence indicates this is a species of Ulothrix that we have not encountered previously. A preliminary look at the NextGen ITS data has also hit this species.
GWS049939	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Urospora neglecta (Kornmann) Lokhorst & Trask	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	Human observation & Sanger sequencing	
GWS049951	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Urospora neglecta (Kornmann) Lokhorst & Trask	Upper intertidal on rock	O.Reeves	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation	
GWS049956	Chlorophyta	Ulvophyceae	Ulvales	Kornmanniaceae	Blidingia sp.	Subtidal (5 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation	
GWS049931	Chlorophyta	Ulvophyceae	Ulvales	Kornmanniaceae	Blidingia sp. 2subsalsa (Kjellman) Kornmann & Sahling	Subtidal (12.3 m) on Fucus	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	Human observation	
GWS049940	Chlorophyta	Ulvophyceae	Ulvales	Kornmanniaceae	Blidingia sp. 2subsalsa (Kjellman) Kornmann & Sahling	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	Human observation	
GWS049941	Chlorophyta	Ulvophyceae	Ulvales	Kornmanniaceae	Blidingia sp. 2subsalsa (Kjellman) Kornmann & Sahling	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	Human observation & Sanger sequencing	
GWS049900	Ochrophyta	Bacillariophyceae	Naviculales	Berkeleyaceae	Berkeleya sp.	Subtidal (12 m) epiphytic on Obelia	N. OBrien, P. Hinton, K. Lindsay	28.7.2024	Milne Inlet, Baffin Island	71.8877	-80.9111	Human observation	
GWS049901	Ochrophyta	Bacillariophyceae	Naviculales	Berkeleyaceae	Berkeleya sp.	Subtidal (12 m) on metal quadrat	N. OBrien, P. Hinton, K. Lindsay	28.7.2024	Milne Inlet, Baffin Island	71.8877	-80.9111	Human observation	
GWS049914	Ochrophyta	Bacillariophyceae	Naviculales	Berkeleyaceae	Berkeleya sp.	Subtidal (11.3 m) epiphytic on Obelia	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	Human observation	
GWS049903	Ochrophyta	Bacillariophyceae	Naviculales	Berkeleyaceae	Parlibellus sp.	Subtidal (12 m) on Bryozoan	N. OBrien, P. Hinton, K. Lindsay	28.7.2024	Milne Inlet, Baffin Island	71.8877	-80.9111	Human observation	
GWS049991	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia aculeata (Linnaeus) J.V.Lamouroux	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049904	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia sp. 1Arctic	Subtidal (11.3 m) on Metal quadrat	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	Human observation	Novel Desmarestia thus far only known from the Arctic.
GWS049913	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia sp. 1Arctic	Subtidal (11.3 m) on Metal quadrat	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	Human observation	
GWS049917	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia sp. 1Arctic	Subtidal (12.8 m) on Metal quadrat	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	Human observation	
GWS049969	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia sp. 1Arctic	Subtidal (17 m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation	
GWS049909	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella sp.	Subtidal (11.3 m) on Metal quadrat	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	Human observation	
GWS049911	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella sp.	Subtidal (11.3 m) epiphytic on Saccharina	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	Human observation	
GWS049930	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella sp.	Subtidal (12.3 m) on Fucus	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	Human observation	
GWS049937	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella sp.	Subtidal (12.3 m) on Fucus	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	Human observation	
GWS049932	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis Jao	Subtidal (12.3 m) on Fucus	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	Human observation & Sanger sequencing	
GWS049936	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis Jao	Subtidal (12.3 m) on Fucus	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	Human observation & Sanger sequencing	
GWS049972	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis Jao	Subtidal (17 m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049974	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis Jao	Subtidal (17 m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049926	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Ascoseirophila sp. 1violodora	Subtidal (11.4 m) in/on Dilsea socialis	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	Human observation & Sanger sequencing	*Ascoseirophila violodora* A.F.Peters is an Antarctic species. This is a relatively closely related sister, which is very exciting

Macroalgal Identifications by Dr. Gary Saunders, University of New Brunswick, 2024

#	Division	Class	Order	Family	Name	Hab.	Coll.	Date	Geo.	Lat	Long	Basis of Record	Notable
GWS049934	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Litosiphon sp.1Arctic	Subtidal (12.3 m) Drift	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	Human observation	There is only a single recognized species of *Litosiphon* , and if has not been reported from the Arctic. This is anatomically very similar, but has some dofferences suggesting it is a novel arctic endemic.
GWS049975	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon arcticus Pedersen & Kristiansen	Subtidal (17 m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation	This is my best identification for this specimen. We will hopefully get DNA eventually from a collection.
GWS049915	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi) Areschoug ex Reinke	Subtidal (11.3 m) on Metal quadrat	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	Human observation	
GWS049927	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi) Areschoug ex Reinke	Subtidal (11.4 m) on Metal quadrat	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	Human observation & Sanger sequencing	
GWS049933	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi) Areschoug ex Reinke	Subtidal (12.3 m) on Fucus	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	Human observation & Sanger sequencing	
GWS049958	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi) Areschoug ex Reinke	Subtidal (5 m) on Metal anchor	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation	
GWS049961	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi) Areschoug ex Reinke	Subtidal (5 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation	
GWS049963	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi) Areschoug ex Reinke	Subtidal (5 m) on Metal anchor	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049966	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi) Areschoug ex Reinke	Subtidal (5 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049970	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi) Areschoug ex Reinke	Subtidal (17 m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation	
GWS049971	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi) Areschoug ex Reinke	Subtidal (17 m) on Dictyosiphon	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049973	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi) Areschoug ex Reinke	Subtidal (17 m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049959	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon shibazakiorum M.Hoshino & Kogame	Subtidal (5 m) on metal anchor	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049964	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon shibazakiorum M.Hoshino & Kogame	Subtidal (5 m) on metal anchor	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation	
EWSP24000	Ochrophyta	Phaeophyceae	Fucales	Fucaceae	Fucus distichus Linnaeus	Subtidal (11.3 m) on Metal quadrat	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	Human observation	
EWSP24001	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linnaeus) C.E.Lane, C.Mayes, Druehl & G.W.Saunders	Subtidal (17 m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation	
GWS049902	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linnaeus) C.E.Lane, C.Mayes, Druehl & G.W.Saunders	Subtidal (12 m) on metal quadrat	N. OBrien, P. Hinton, K. Lindsay	28.7.2024	Milne Inlet, Baffin Island	71.8877	-80.9111	Human observation & Sanger sequencing	
GWS049908	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linnaeus) C.E.Lane, C.Mayes, Druehl & G.W.Saunders	Subtidal (11.3 m) on Metal quadrat	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	Human observation	
GWS049919	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linnaeus) C.E.Lane, C.Mayes, Druehl & G.W.Saunders	Subtidal (12.8 m) on Metal quadrat	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	Human observation	
GWS049921	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linnaeus) C.E.Lane, C.Mayes, Druehl & G.W.Saunders	Subtidal (11.4 m) on Metal quadrat	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	Human observation & Sanger sequencing	
GWS049976	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linnaeus) C.E.Lane, C.Mayes, Druehl & G.W.Saunders	Subtidal (17 m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation	
GWS049977	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linnaeus) C.E.Lane, C.Mayes, Druehl & G.W.Saunders	Subtidal (17 m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049978	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linnaeus) C.E.Lane, C.Mayes, Druehl & G.W.Saunders	Subtidal (17 m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049987	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linnaeus) C.E.Lane, C.Mayes, Druehl & G.W.Saunders	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049997	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linnaeus) C.E.Lane, C.Mayes, Druehl & G.W.Saunders	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049954	Ochrophyta	Phaeophyceae	Ralfsiales	Ralfsiaceae	Ralfsia sp.	Upper intertidal on rock	O.Reeves	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation	
GWS049912	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) Draisma, Prud'homme & H. Kawai	Subtidal (11.3 m) on Metal quadrat	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	Human observation & Sanger sequencing	
GWS049929	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) Draisma, Prud'homme & H. Kawai	Subtidal (12.3 m) on Fucus	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	Human observation	

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GWS049935	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) Draisma, Prud'homme & H. Kawai	Subtidal (12.3 m) on Fucus	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	Human observation	
GWS049938	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) Draisma, Prud'homme & H. Kawai	Subtidal (12.3 m) on Fucus	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	Human observation & Sanger sequencing	
GWS049948	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) Draisma, Prud'homme & H. Kawai	Subtidal (5 m) Drift	O.Reeves, T. Tomliens, M. Babin	03.8.2024	Koluktoo Bay, Baffin Island	72.0732	-80.8182	Human observation	
GWS049949	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) Draisma, Prud'homme & H. Kawai	Subtidal (5 m) Drift	O.Reeves, T. Tomliens, M. Babin	03.8.2024	Koluktoo Bay, Baffin Island	72.0732	-80.8182	Human observation	
GWS049960	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) Draisma, Prud'homme & H. Kawai	Subtidal (5 m) on Metal anchor	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049962	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) Draisma, Prud'homme & H. Kawai	Subtidal (5 m) on Metal anchor	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation & Sanger sequencing	
GWS049965	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) Draisma, Prud'homme & H. Kawai	Subtidal (5 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	Human observation	
GWS049981	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) Draisma, Prud'homme & H. Kawai	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation	
GWS049994	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) Draisma, Prud'homme & H. Kawai	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049999	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) Draisma, Prud'homme & H. Kawai	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049910	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Chaetopteris plumosa (Lyngbye) Kützing	Subtidal (11.3 m) on Metal quadrat	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	Human observation	
GWS049993	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Chaetopteris plumosa (Lyngbye) Kützing	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS050001	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Chaetopteris plumosa (Lyngbye) Kützing	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	07.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation	
GWS049920	Ochrophyta	Phaeophyceae	Tilopteridales	Phyllariaceae	Saccorhiza dermatodea (Bachelot de la Pylaie) J.Agardh	Subtidal (12.8 m) drift	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	Human observation	
GWS049995	Rhodophyta	Florideophyceae	Hapalidiales	Hapalidiaceae	Boreolithothamnion lemoineae (W.H.Adey) P.W.Gabrielson, Maneveldt, Hughey & V.Peña	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049943	Rhodophyta	Florideophyceae	Hapalidiales	Mesophyllumaceae	Leptophytum foecundum (Kjellman) W.H. Adey	Subtidal (27.4 m) on Rock	O.Reeves, T. Tomliens, M. Babin	03.8.2024	Koluktoo Bay, Baffin Island	72.0732	-80.8182	Human observation & Sanger sequencing	
GWS049944	Rhodophyta	Florideophyceae	Hapalidiales	Mesophyllumaceae	Leptophytum foecundum (Kjellman) W.H. Adey	Subtidal (27.4 m) on Rock	O.Reeves, T. Tomliens, M. Babin	03.8.2024	Koluktoo Bay, Baffin Island	72.0732	-80.8182	Human observation & Sanger sequencing	
GWS049945	Rhodophyta	Florideophyceae	Hapalidiales	Mesophyllumaceae	Leptophytum laeve W.H. Adey	Subtidal (27.4 m) on Rock	O.Reeves, T. Tomliens, M. Babin	03.8.2024	Koluktoo Bay, Baffin Island	72.0732	-80.8182	Human observation & Sanger sequencing	
GWS049946	Rhodophyta	Florideophyceae	Hapalidiales	Mesophyllumaceae	Leptophytum laeve W.H. Adey	Subtidal (27.4 m) on Rock	O.Reeves, T. Tomliens, M. Babin	03.8.2024	Koluktoo Bay, Baffin Island	72.0732	-80.8182	Human observation & Sanger sequencing	
GWS049947	Rhodophyta	Florideophyceae	Hapalidiales	Mesophyllumaceae	Leptophytum laeve W.H. Adey	Subtidal (27.4 m) on Rock	O.Reeves, T. Tomliens, M. Babin	03.8.2024	Koluktoo Bay, Baffin Island	72.0732	-80.8182	Human observation & Sanger sequencing	
GWS049923	Rhodophyta	Florideophyceae	Ceramiales	Ceramiaceae	Scagelia pylaisaei (Montagne) M.J.Wynne	Subtidal (11.4 m) on Saccharina	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	Human observation & Sanger sequencing	
GWS049924	Rhodophyta	Florideophyceae	Ceramiales	Ceramiaceae	Scagelia pylaisaei (Montagne) M.J.Wynne	Subtidal (11.4 m) on Saccharina	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	Human observation & Sanger sequencing	
GWS049928	Rhodophyta	Florideophyceae	Ceramiales	Ceramiaceae	Scagelia pylaisaei (Montagne) M.J.Wynne	Subtidal (11.4 m) on Saccharina	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	Human observation & Sanger sequencing	
GWS049985	Rhodophyta	Florideophyceae	Ceramiales	Ceramiaceae	Scagelia pylaisaei (Montagne) M.J.Wynne	Subtidal (12.3 m) epiphytic on Dilsea socialis	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS050000	Rhodophyta	Florideophyceae	Ceramiales	Delesseriaceae	Phycodrys fimbriata (Kuntze) Kylin	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049992	Rhodophyta	Florideophyceae	Ceramiales	Rhodomelaceae	Odonthalia dentata (Linnaeus) Lyngbye	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049998	Rhodophyta	Florideophyceae	Ceramiales	Rhodomelaceae	Odonthalia dentata (Linnaeus) Lyngbye	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049916	Rhodophyta	Florideophyceae	Ceramiales	Rhodomelaceae	Rhodomela sibirica A.Zinova & Vinogradova	Subtidal (11.3 m) on Metal quadrat	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	Human observation	
GWS049979	Rhodophyta	Florideophyceae	Ceramiales	Rhodomelaceae	Rhodomela sibirica A.Zinova & Vinogradova	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049990	Rhodophyta	Florideophyceae	Ceramiales	Rhodomelaceae	Rhodomela sibirica A.Zinova & Vinogradova	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049922	Rhodophyta	Florideophyceae	Ceramiales	Rhodomelaceae	Rhodomela virgata Kjellman	Subtidal (11.4 m) on Metal quadrat	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	Human observation	

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GWS049984	Rhodophyta	Florideophyceae	Ceramiales	Rhodomelaceae	Rhodomela virgata Kjellman	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049986	Rhodophyta	Florideophyceae	Ceramiales	Rhodomelaceae	Rhodomela virgata Kjellman	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation	
GWS049905	Rhodophyta	Florideophyceae	Ceramiales	Rhodomelaceae	Savoiea arctica (J.Agardh) M.J.Wynne	Subtidal (11.3 m) on Metal quadrat	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	Human observation & Sanger sequencing	
GWS049980	Rhodophyta	Florideophyceae	Ceramiales	Rhodomelaceae	Savoiea arctica (J.Agardh) M.J.Wynne	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation	
GWS049983	Rhodophyta	Florideophyceae	Ceramiales	Rhodomelaceae	Savoiea arctica (J.Agardh) M.J.Wynne	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049925	Rhodophyta	Florideophyceae	Gigartinales	Dumontiaceae	Dilsea socialis (Postels & Ruprecht) Perestenko	Subtidal (11.4 m) on Metal quadrat	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	Human observation	
GWS049926A	Rhodophyta	Florideophyceae	Gigartinales	Dumontiaceae	Dilsea socialis (Postels & Ruprecht) Perestenko	Subtidal (11.4 m) on Metal quadrat	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	Human observation	
GWS049982	Rhodophyta	Florideophyceae	Gigartinales	Dumontiaceae	Dilsea socialis (Postels & Ruprecht) Perestenko	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049988	Rhodophyta	Florideophyceae	Gigartinales	Dumontiaceae	Dilsea socialis (Postels & Ruprecht) Perestenko	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
GWS049989	Rhodophyta	Florideophyceae	Gigartinales	Dumontiaceae	Dilsea socialis (Postels & Ruprecht) Perestenko	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation	
GWS049996	Rhodophyta	Florideophyceae	Gigartinales	Dumontiaceae	Dilsea socialis (Postels & Ruprecht) Perestenko	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation & Sanger sequencing	
EWSP24002	Rhodophyta	Florideophyceae	Gigartinales	Phyllophoraceae	Coccotylus truncatus (Pallas) Wynne & Heine	Subtidal (12.3 m) on Rock	N. OBrien, P. Hinton, K. Lindsay	07.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	Human observation	
GWS049906	Rhodophyta	Florideophyceae	Gigartinales	Phyllophoraceae	Coccotylus truncatus (Pallas) Wynne & Heine	Subtidal (11.3 m) on Metal quadrat	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	Human observation & Sanger sequencing	

APPENDIX 8B-5

Review of Archival Macroalgae

1.0 INTRODUCTION

Baffinland Iron Mines Corporation (Baffinland) owns and operates an open pit iron ore mine (the Project) located in the Qikiqtani Region of North Baffin Island, Nunavut, in accordance with Terms and Conditions of its Project Certificate (PC) No. 005. As a part of regulatory commitments, Baffinland executes an annual multi-disciplinary Marine Environmental Effects Monitoring Program (MEEMP) and Nonindigenous Species/Aquatic Invasive Species (NIS/AIS) Monitoring Program at Milne Port, in order to evaluate potential Project-related effects on the marine environment. The NIS/AIS Monitoring Program is designed to address the potential risks of species introductions to the marine environment from ship ballast water and hull biofouling.

Taxonomic identification is critical to the detection and management of NIS/AIS. Since the beginning of the MEEMP-NIS/AIS Monitoring Program, taxonomic resources for the identification of macroalgae have been considered a knowledge gap. Few macroalgal surveys have been conducted in the Canadian Arctic and the biodiversity is not well known. Compared to other taxa detected at Milne Port, relatively few macroalgae had been identifiable to species. This was identified as a deficiency of the monitoring program because macroalgae are a taxonomic group at high risk of transport via hull fouling. To address this deficiency, WSP developed a collaboration with Dr. Gary Saunders, a macroalgae taxonomy specialist, and his graduate student Olivia Reeves at the University of New Brunswick.

In 2024, Dr. Saunders and Ms. Reeves performed a review of the existing macroalgal collection, in addition to providing taxonomic identification services for macroalgae collected in the 2024 field program.

2.0 METHODS

Detailed methods and definitions of terms used in this memorandum are presented in Chapter 8.0 of the 2024 MEEMP report (WSP 2025). Macroalgae samples collected for morphological identification as well as DNA in 2021, 2022, and 2023 were sent to Dr. Gary Saunders at the Centre for Environmental & Molecular Algal Research at University of New Brunswick (UNB) for verification. These samples represented collections from settlement substrates in addition to opportunistic collections from quadrat surveys and offset habitat monitoring surveys. All samples had been previously examined by Biologica Environmental Services, Ltd., with subsequent morphological analysis of some specimens by Dr. Sandra Lindstrom, University of British Columbia, and DNA barcoding at the Canadian Centre for DNA Barcoding (CCDB), University of Guelph.

WSP then reviewed the Milne Port Taxonomic Inventory to incorporate new or updated accepted species names as required for previously identified species. Macroalgae taxa previously identified in Milne Port that were not identified during Dr. Saunder's review were not removed from the taxonomic inventory as the samples sent for verification do not represent the complete sample inventory. Many species identified by Dr. Saunders had been previously identified in MEEMP-NIS/AIS surveys in Milne Port, however, due to changes in the methods for discussion of range and distribution, all taxa identified by Dr. Saunders were treated as new identifications for the purposes of this memo.

Macroalgae taxa were assessed through literature review to determine if their known distributions and ranges included North Atlantic, Arctic and/or Canadian Arctic waters, whether the taxon had a history as an AIS somewhere else in the world, and to check for changes in the taxonomic nomenclature. Information sources for species biology and distributions, as well as global and domestic AIS databases and resources are the same as those listed in Section 8.3.3.3 in Chapter 8.0 of the 2024 MEEMP report (WSP 2025).

2.1 Distribution Categories

Based on the range on record for each taxon, a value was assigned to each new observation to express the distance to the closest record as a descriptor of distribution. Methods for describing the distribution categories followed those of Goldsmit et al. (2014), adjusted for the Project location (Figure 1). Each taxon was assigned a value of 1 to 5 based on the locations of the closest records to the project area, where:

- A value of 1 indicated there were previous records “Within the Region”. The region was defined as Milne Inlet between the Milne Port Site and Ragged Island[1].
- A value of 2 indicated that there was no record within the immediate region, however there was a record from the “Surrounding Region”. Boundaries for the surrounding region included the Eastern Canadian Arctic and Davis Strait.
- A value of 3 indicated that records existed for the taxon in other regions of the Canadian Arctic, or “Arctic Outside Region”. Boundaries included the Western Canadian Arctic and Hudson Bay.
- A value of 4 indicated the taxon had a “Circumpolar/Circumboreal Distribution” on record, indicating the taxon was recorded in other locations within the Arctic, or had a generally described Arctic distribution, with no georeferenced collections in the Arctic Outside Region.
- A value of 5 indicated the taxon had a “Wider Distribution” on record that did not clearly include records within circumpolar or circumboreal regions.

Supporting information on distribution for each taxon (as requested by MEWG members) was summarized by indicating the closest Marine Ecoregions of the World (MEOW; Spalding et al. 2007) where specimens had been recorded in the scientific literature or databases listed above. Based on biology or ecosystem connectivity, species in nine Arctic ecoregions listed below were considered to have a reasonable probability of having a natural range that would include Milne Port. Each ecoregion represents coastal and shelf waters shallower than 200 m, with seaward boundaries extending 370 km (200 nautical miles) offshore or to 200 m depth (whichever is further offshore). Relevant Arctic Ecoregions applicable to MEEMP surveys are as follows (in approximate order of proximity to the Project area):

- **Baffin Bay–Davis Strait** – Davis Strait north of Cape Dyer to the northern extent of Baffin Bay, including the eastern extent of Lancaster Sound. Milne Port is located within this ecoregion. This ecoregion falls within the boundaries of distribution categories 1 and 2.
- **Lancaster Sound** – The Lancaster Sound region of the southern Arctic Archipelago, including Devon Island, Sommerset Island, Cornwallis Island, as well as the eastern and southern coastlines of Prince of Wales Island and Bathurst Island. This ecoregion falls within the boundaries of distribution categories 1, 2 and 3.
- **High Arctic Archipelago** – The Arctic Archipelago north of Lancaster Sound and Viscount Melville Sound. This ecoregion falls within the boundaries of distribution categories 2, 3 and 4.
- **Northern Labrador** – Northern Labrador Sea at Davis Inlet to Southern Davis Strait at Cape Dyer, including the eastern extent of Hudson Strait. This ecoregion includes Iqaluit and Frobisher Bay. This ecoregion falls within the boundaries of distribution categories 2 and 4.

[1] Due to the limited number of species surveys that have occurred in this region in comparison to MEEMP survey efforts, it is anticipated that most new observations in the program will not fall into this category.

- **Hudson Complex** – Includes the waters of Hudson Bay, James Bay, Hudson Strait, and Foxe Basin, as well as the eastern extent of Fury and Hecla Strait. This ecoregion falls within the boundaries of distribution category 3.
- **West Greenland Shelf** – Coastal and shelf waters of Western Greenland approximately between Cape York and Nûk. This ecoregion falls within the boundaries of distribution categories 2 and 4.
- **North Greenland** – Coastal and shelf waters of North Greenland approximately between Cape York and Danmarkshavn. This ecoregion falls within the boundaries of distribution categories 2 and 4.
- **East Greenland Shelf** – Coastal and shelf waters of North Greenland approximately between Danmarkshavn and Nûk. This ecoregion falls within the boundaries of distribution category 4.
- **Beaufort–Amundsen–Viscount Melville–Queen Maud** – The southern Arctic Archipelago west of the Lancaster Sound ecoregion, extending west past Cape Perry. This ecoregion falls within the boundaries of distribution category 3.

An uncertainty value was also provided to indicate the confidence in the available data used to place the specific taxon within the appropriate distribution category.

- **Low uncertainty** indicates that the available data are robust and well reviewed. It is assumed that the range on record is an accurate description for the taxon.
- **Moderate uncertainty** indicates that there is some uncertainty in the range on record or limited collection records, and that there is a reasonable probability that range may be broader or narrower than described in the available literature.
- **High uncertainty** indicates that the range on record is likely incomplete and not representative of the probable range. High uncertainty will be more likely for newly described species, or rarer species that are underrepresented in collections.

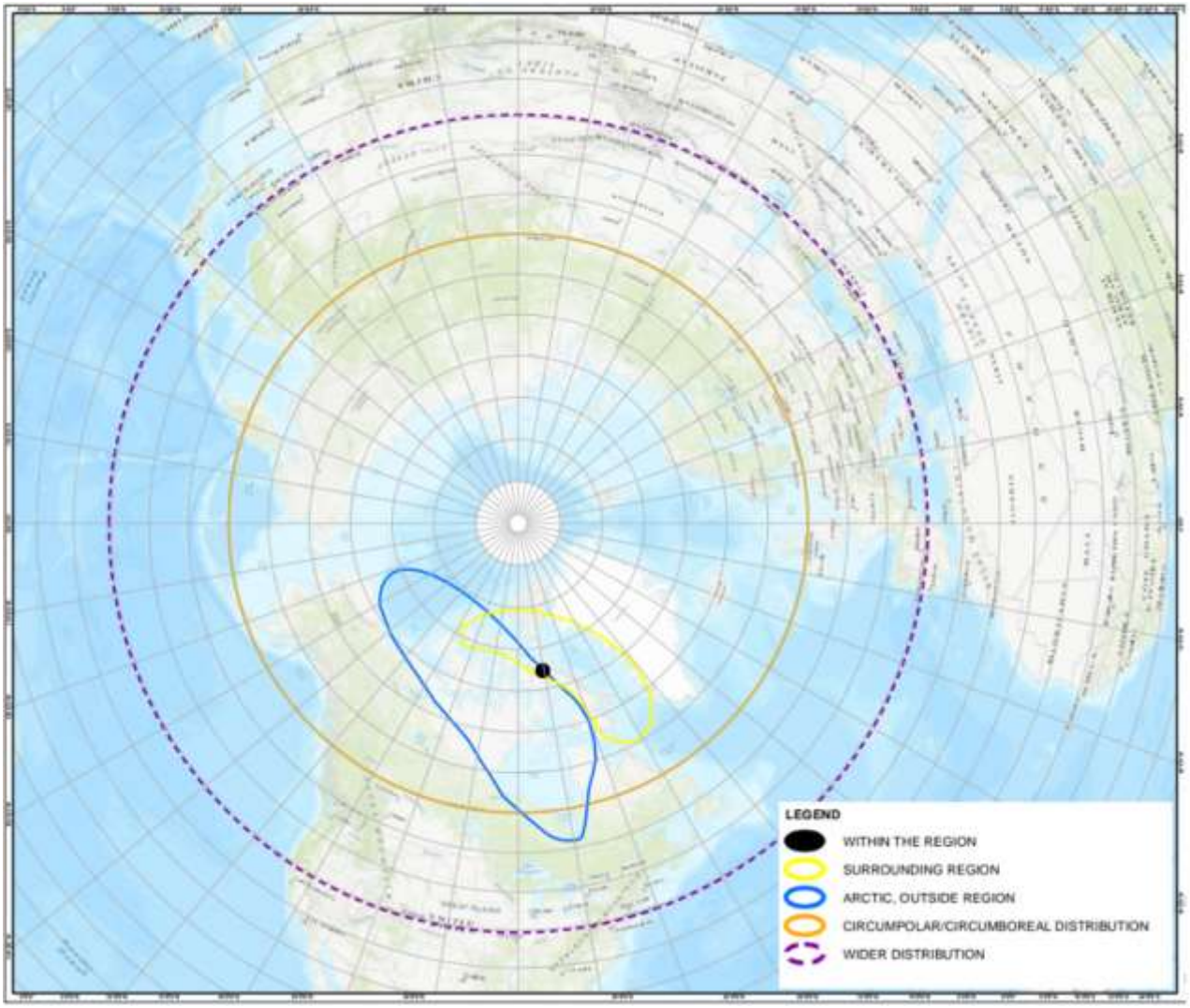


Figure 1: Approximate regions for taxonomic distribution categories used to define closest records. Adapted from Goldsmit et al. (2014).

3.0 RESULTS AND DISCUSSION

A total of 39 distinct macroflora taxa were recorded in samples examined by Dr. Saunders, 25 of which were identifiable to species level. Seventeen of these taxa had been previously identified in MEEMP surveys, as well as representative taxa from five higher level taxa. The identified taxa are summarised in Table 1 and are described further in the following sections 3.1 through 3.3.

Table 1: List of Macroflora Taxa Identified in Samples Examined by Dr. Saunders, with Distribution on Record

Division Class/Order	Family	Taxon	Distribution References	Distribution Category[a]	Relevant Ecoregions on Record[b]	Uncertainty[c]
Chlorophyta						
Ulvophyceae / Acrosiphoniales	Acrosiphoniaceae	*Acrosiphonia* sp.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	1	1, 2, 3, 4, 5, 6	Low
Ulvophyceae / Cladophorales	Cladophoraceae	*Chaetomorpha* sp.*	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	1	1, 2, 3, 4, 5, 6, 8, 9	Low
Ulvophyceae / Cladophorales	Cladophoraceae	*Chaetomorpha melagonium*	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14	1	1, 2, 3, 4, 5, 6, 8, 9	Low
Ulvophyceae / Ulotrichales	Ulotrichaceae	*Urospora neglecta*	1, 2, 3, 9	4	*	Moderate
Ulvophyceae / Ulvales	Kornmanniaceae	*Blidingia* sp. *2subsalsa*	9, 15	3	5	High
Ochrophyta						
Phaeophyceae / Desmarestiales	Desmarestiaceae	*Desmarestia aculeata*	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 16	1	1, 2, 3, 4, 5, 6, 8, 9	Low
Phaeophyceae / Desmarestiales	Desmarestiaceae	*Desmarestia* sp.*	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 16	1	1, 2, 3, 4, 5, 6, 8, 9	Low
Phaeophyceae / Ectocarpales	Acinetosporaceae	Acinetosporaceae indet.*	1, 2, 3, 5, 7	1	1, 2, 4, 5, 6, 8, 9	Low
Phaeophyceae / Ectocarpales	Acinetosporaceae	Acinetosporaceae gen sp. 3AP-2016	7, 15	1	1	High
Phaeophyceae / Ectocarpales	Acinetosporaceae	*Hincksia* sp.	1, 2, 3, 4, 6, 7, 8	1	1, 2, 4, 5, 8	Low
Phaeophyceae / Ectocarpales	Acinetosporaceae	*Pylaiella* sp.*	1, 2, 3, 4, 5, 6, 7, 9, 10, 12	1	1, 5	Low

Division Class/Order	Family	Taxon	Distribution References	Distribution Category[a]	Relevant Ecoregions on Record[b]	Uncertainty[c]
Phaeophyceae / Ectocarpales	Acinetosporaceae	*Pylaiella washingtoniensis*	3, 5, 7, 9	1	1, 5	Low
Phaeophyceae / Ectocarpales	Acinetosporaceae	*Dictyosiphon foeniculaceus*	1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 17	2	1, 4, 5, 6	Moderate
Phaeophyceae / Ectocarpales	Acinetosporaceae	*Dictyosiphon* sp.*	1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 14, 17	1	1, 4, 5, 6	Low
Phaeophyceae / Ectocarpales	Chordariaceae	*Elachista fucicola*	1, 2, 3, 4, 6, 7, 8, 9, 10	1	1, 2, 4, 5	Low
Phaeophyceae / Ectocarpales	Chordariaceae	*Stictyosiphon* sp.*	1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 14, 17	1	1, 2, 4, 5, 6, 8, 9	Low
Phaeophyceae / Ectocarpales	Chordariaceae	*Stictyosiphon arcticus*	2, 3, 18	1	1, 6	Moderate
Phaeophyceae / Ectocarpales	Chordariaceae	*Stictyosiphon tortilis*	1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 17	1	1, 2, 4, 5, 8, 9	Low
Phaeophyceae / Ectocarpales	Scytosiphonaceae	*Scytosiphon* sp. Group J	19	3	5	High
Phaeophyceae / Fucales	Fucaceae	*Fucus distichus*	1, 2, 3, 4, 5, 6, 7, 9, 12, 14, 17, 20	1	1, 2, 4, 5, 6, 7, 8, 9	Low
Phaeophyceae / Laminariales	Alariaceae	*Alaria esculenta*	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 20, 21	1	1, 2, 3, 4, 5, 6, 8, 9	Low
Phaeophyceae / Laminariales	Laminariaceae	*Saccharina* sp.*	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 17, 20, 21	1	1, 2, 3, 4, 5, 6, 7, 8, 9	Moderate
Phaeophyceae / Laminariales	Laminariaceae	*Saccharina latissima*	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 20, 21	1	1, 2, 4, 5, 6, 8, 9	Low

Division Class/Order	Family	Taxon	Distribution References	Distribution Category[a]	Relevant Ecoregions on Record[b]	Uncertainty[c]
Phaeophyceae / Laminariales	Laminariaceae	*Laminaria* sp.*	1, 2, 3, 4, 6, 7, 8, 9, 10, 12, 13, 14, 17, 21	1	1, 2, 3, 4, 5, 6, 7, 8, 9	Moderate
Phaeophyceae / Laminariales	Laminariaceae	*Laminaria solidungula*	1, 2, 3, 6, 7, 9, 10, 14, 21	1	1, 2, 4, 5, 6, 8, 9	Low
Phaeophyceae / Sphacelariales	Lithodermataceae	*Pseudolithoderma* sp.	1, 2, 3, 4, 6, 8, 10, 14	1	1, 2, 3, 5, 6, 8, 9	Low
Phaeophyceae / Sphacelariales	Sphacelariaceae	*Battersia arctica*	1, 2, 3, 4, 6, 7, 8, 12, 14	1	1, 2, 3, 5, 8, 9	Low
Phaeophyceae / Sphacelariales	Sphacelariaceae	*Battersia racemosa*	1, 2, 3	2	1, 5	Moderate
Phaeophyceae / Sphacelariales	Sphacelariaceae	*Chaetopteris plumosa*	1, 2, 3, 4, 6, 7, 8, 9, 10, 12	1	1, 2, 3, 4, 5, 6, 8, 9	Low
Rhodophyta						
Florideophyceae / Ahnfeltiales	Ahnfeltiaceae	*Ahnfeltia borealis*	1, 2, 3, 5, 9	2	1, 4, 5	Moderate
Florideophyceae / Ceramiales	Ceramiaceae	*Scagelia pylaisaei*	1, 2, 3, 6, 7, 8, 9	1	1, 4, 5	Moderate
Florideophyceae / Ceramiales	Delesseriaceae	*Phycodrys fimbriata*	1, 2, 3, 5, 6, 9	2	1, 4, 5	Moderate
Florideophyceae / Ceramiales	Rhodomelaceae	*Odonthalia dentata*	1, 2, 3, 4, 5, 6, 7, 8, 9, 13, 14	1	1, 3, 4, 5	Low
Florideophyceae / Ceramiales	Rhodomelaceae	*Polysiphonia stricta*	1, 2, 3, 4, 5, 6, 9	2	1, 3, 4, 5, 8	Low
Florideophyceae / Ceramiales	Rhodomelaceae	*Rhodomela tenuissima*	1, 2, 3, 4, 9, 10	2	1, 7	Moderate

Division Class/Order	Family	Taxon	Distribution References	Distribution Category[a]	Relevant Ecoregions on Record[b]	Uncertainty[c]
Florideophyceae / Ceramiales	Rhodomelaceae	*Rhodomela virgata*	2, 3, 5, 9	3	5	Moderate
Florideophyceae / Ceramiales	Rhodomelaceae	*Savoiea arctica*	2, 3, 4, 5, 6, 7, 8, 10, 12, 14	1	1, 2, 4, 5, 6, 8, 9	Moderate
Florideophyceae / Gigartinales	Dumontiaceae	*Dilsea socialis*	1, 2, 3, 4, 5, 7, 8, 9	1	1, 4, 5	Low
Florideophyceae / Gigartinales	Phyllophoraceae	*Coccotylus truncatus*	1, 2, 3, 4, 5, 6, 7, 8, 9, 13, 14	1	1, 2, 3, 4, 5, 8, 9	Low

Notes: Taxa identified to the lowest practical taxonomic level; *indicates non-unique taxa; indet.= indeterminate (taxa which could not be identified beyond the taxonomic level listed); sp.=species.
[a] Distribution categories indicate the proximity to the Project of the closest georeferenced collection of the taxon, where category 1: Within the Region, 2: Surrounding Region, 3: Arctic, Outside Region, 4: Circumpolar/Circumboreal Distribution, 5: Wider Distribution. Distribution categories are defined in Section 2.1
[b] Ecoregion are delineated in Spalding et al. 2007 and herein refer to 1. Baffin Bay-Davis Strait; 2. Lancaster Sound; 3. High Arctic Archipelago; 4. Northern Labrador; 5. Hudson Complex; 6. West Greenland Shelf; 7. North Greenland Shelf; 8. East Greenland Shelf; 9. Beaufort-Amundson-Viscount Melville-Queen Maud
[c] Uncertainty indicates confidence in the data available for the range on record. Uncertainty categories (Low, Moderate, and High) are described in Section 2.1

* Descriptions include the “Canadian Arctic”, but no further description is provided. Relevant Ecoregion could not be determined.

Taxa distribution references: 1: WoRMS 2025; 2: GBIF 2025; 3: Guiry and Guiry 2025; 4. Lee 1980; 5. Saunders and McDevit 2013; 6. Mathieson et al. 2010; 7. Küpper et al. 2016; 8. Wilce and Dunton 2014; 9. Saunders 2023; 10. Lund 1959; 11. Charette et al. 2020; 12. Ellis and Wilce 1961; 13. Brown et al. 2011; 14. Cross et al. 1987; 15. NLM 2025; 16. Goldsmit et al. 2023; 17. Snow et al. 1987; 18. Pedersen and Kristiansen 1992; 19. McDevit and Saunders 2017; 20. Sokoloff 2015; 21. Goldsmit et al. 2021.
All taxa cross-referenced with NIS/AIS resources: Fofonoff et al. 2018, AquaNIS 2015, ISSG 2025, Costello et al. 2025, CABI 2025, Casas-Monroy et al. 2014, CAFF and PAME 2017, Molnar et al. 2008.

3.1 Chlorophyta

3.1.1 *Acrosiphonia* sp.

An unknown species of *Acrosiphonia* was first observed in Milne Port in 2022 on settlement substrates (WSP 2023). At least two species from this genus (*A. arcta* and *A. sonderi*) are accepted as present in the Eastern Canadian Arctic, with records including collections from Ragged Island, north of the Project area (Küpper et al. 2016, GBIF 2025). However, DNA barcoding of specimens collected in Churchill indicate that the taxonomic record for the Canadian Arctic is incomplete and there are at least four distinct species present in the area (Saunders and McDevit 2013). No records of potential NIS species in the genus *Acrosiphonia* occur in comparable environments to Milne Port.

- ***Acrosiphonia* sp. is not considered a taxon of concern for Milne Port.**

3.1.2 *Chaetomorpha* sp. and *Chaetomorpha melagonium*

Chaetomorpha was first identified in Milne Port in 2021 (as *Chaetomorpha melagonium*). *Chaetomorpha* is a genus of cladophoran green algae with a broad global distribution. At least three species have been recorded in the Canadian Arctic (*C. melagonium, C. linum*, and *C. ligustica*), with *C. melagonium* and *C. linum* recorded at Cape Hatt (Ragged Island), north of the Project area (Cross et al. 1987, Küpper et al. 2016, Wilce and Dunton 2014). In general, *Chaetomorpha* species may be hard to distinguish morphologically and may be difficult to resolve genetically. Efforts to sequence specimens from Churchill and Milne Port failed to generate barcode data or readable sequences (Saunders and McDevit 2013, Golder 2022a).

Several cladophoran species are recorded as alien or cryptogenic to other regions, including *C. linum*, introduced to Australia from Baltic origins (AquaNIS 2015) and *C. ligustica*, introduced to the USA from Europe (Costello et al. 2025). Other potential NIS species in the genus *Chaetomorpha* that are naturally occurring in Canadian Arctic waters do not occur in comparable environments to Milne Port and are unlikely to be species of concern.

- ***Chaetomorpha* sp. and *Chaetomorpha melagonium* are not considered taxa of concern in Milne Port.**

3.1.3 *Urospora neglecta*

Urospora sp. first identified in 2018 during monitoring of offsetting habitat. In 2021, specimens were tentatively identified as *Urospora neglecta* although the identification was tentative due to poor descriptions and morphological similarities within the genus. The identification was confirmed by DNA analysis (Golder 2022a). Limited collection records of this species indicate a broad range that includes the North American Arctic (WoRMS 2025, GBIF 2025, Guiry and Guiry 2025, Saunders 2023). There are no records of this species in available NIS/AIS databases.

- ***Urospora neglecta* is not considered a taxon of concern for Milne Port.**

3.1.4 *Blidingia* sp. *2subsalsa*

Specimens collected in Milne Port were a morphological match to a genetic group that is not represented in the literature. This taxon is currently unclassified and is named for a morphologically similar sister species, *B. subsalsa*, known from Europe (Saunders 2023). *B.* sp. *2subsalsa* has been collected in Alaska and Churchill, implying a broad North American range (Saunders 2023). There are no records of this species in available NIS/AIS databases.

- ***Blidingia* sp. *2subsalsa* is not considered a taxon of concern for Milne Port.**

3.2 Ochrophyta

3.2.1 *Desmarestia* sp.

Desmarestia was first identified in Milne Port during baseline surveys where *Desmarestia* sp. were among the dominant macroflora (SEM 2015). In 2021, *D. viridis* and *D. aculeata* were both identified during MEEMP surveys and sent for verification by the CCDB (Golder 2022a). Barcoding confirmed the identification of *D. aculeata* (see Section 3.2.2), but the other specimen did not match *D. viridis* sequences from Alaska, British Columbia, and Nova Scotia, indicating that it was likely a related, but separate species. The identification of *D. viridis* was adjusted to *Desmarestia* sp. as a precaution.

Arctic records of *Desmarestia* are uncertain (Saunders and McDevitt 2013). Genetic work shows that morphologically identified *D. aculeata* resolves to 3 genetic groups, one which is known from the Atlantic and Eastern Arctic, however, the morphotype is known to occur in the area (Saunders and McDevitt 2013). Specimens collected at Cape Hatt were found to include *D. aculeata* as well as an unidentified *Desmarestia* species (Küpper et al. 2016), confirming at least two species occur in the Project area. *D. viridis* is a known introduced species to the Black Sea and Sea of Azoth (AquaNIS 2015, Costello et al. 2025). *D. viridis* has been recorded in the Eastern Canadian Arctic and surrounding region (Cross et al. 1987, Lund 1959, Lee 1980) however, these may be misidentifications of a similar, related species (Küpper et al. 2016). Other *Desmarestia* species present on NIS/AIS databases do not occur in comparable environments to Milne Port.

Specimens examined by Dr. Saunders were not able to be resolved to species, however they were a morphological match for the undescribed *Desmarestia* species that was identified by Küpper et al (2016) at Ragged Island (Saunders 2024, pers. comm.). Records of *D. viridis* in the Eastern Canadian Arctic may be this undescribed species, further review of this genus is required.

- ***Desmarestia* sp. is not considered a taxon of concern in Milne Port.**

3.2.2 *Desmarestia aculeata*

Desmarestia aculeata is a species of brown algae with a broad global distribution, with records throughout the Canadian Arctic. Eastern Canadian Arctic observations include Baffin Island (Ellis and Wilce 1961, Küpper et al. 2016). The species was first identified in Milne Port in 2021, when the identification was confirmed via DNA analysis (Golder 2022a). In general, older Arctic records of *Desmarestia* may be unreliable (Saunders and McDevitt 2013, see Section 3.2.1). Genetic work shows that morphologically identified *D. aculeata* resolves to 3 genetic groups, one which is known from the Atlantic and Eastern Arctic, however, the morphotype is known to

occur in the Eastern Canadian Arctic (Saunders and McDevitt 2013). Specimens collected at Cape Hatt were found to include *D. aculeata* (Küpper et al. 2016). There are no records of this species in available NIS/AIS databases.

- ***Desmarestia aculeata* is not considered a taxon of concern in Milne Port.**

3.2.3 Acinetosporaceae indet. and Acinetosporaceae gen sp. 3AP-2016

Acinetosporaceae is an ochrophyte family that contains multiple species that are well documented in the Eastern Canadian Arctic (WoRMS 2025, GBIF 2025) and were first documented in Milne Port in 2021 (as *Pylaiella* cf. *varia* and *Pylaiella* sp.; Golder 2022a). Genetic work on species within this family, illustrated by genetic differences in *Pylaiella littoralis* (see Section 3.2.5), indicates that there is significant work needed on species descriptions (Saunders 2024, pers. comm.). In 2021, the Milne Port specimens morphologically identified as *Pylaiella* cf. *varia* were sent to the CCDB for barcoding analysis. Barcoding was unable to resolve them further than the family level, as they did not match any identified species on record (Golder 2022a). However, the specimen was a 99.69% match to sequences for Acinetosporaceae gen sp. 3AP-2016, which was collected in 2016 at Cape Hatt, indicating there is likely a naturally occurring, undescribed species of this family in the Project area (NLM 2025, Küpper et al. 2016).

Dr. Saunders review of other specimens collected in Milne Port found other Acinetosporaceae indet. that were morphological matches for Acinetosporaceae gen sp. 3AP-2016.

Representative Acinetosporaceae species that are present on NIS/AIS databases do not occur in comparable environments to Milne Port.

- **Acinetosporaceae indet. and Acinetosporaceae gen sp. 3AP-2016 are not considered taxa of concern in Milne Port.**

3.2.4 *Hincksia* sp.

Hincksia is a genus of fuzzy brown algae with a broad global distribution (WoRMS 2025, GBIF 2025). Arctic records include observations in the Ellesmere-Baffin Island and Hudson Strait Regions (Mathieson et al. 2010). In addition to sequenced records from Ragged Island (Küpper et al. 2016). *H. ovata* is the only *Hincksia* species recorded in the Canadian Arctic. This species has been recorded at Baffin Island under the synonymized former name *Giffordia ovata* (Lee 1980). Sequences from specimens collected from Ragged Island in 2009 aligned with the genus *Hincksia*, but did not align with the sequenced species (which did not include *H. ovata*; Küpper et al. 2016).

In 2021, Acinetosporaceae indet. specimens from Milne Port (tentatively identified as *Pylaiella* cf. *varia*) were compared against multiple *Hincksia* sequences on record, with no matches found (see Section 3.2.3, Golder 2022a). In 2022, specimens collected from settlement substrates in Milne Port were tentatively identified as cf. *Hincksia* sp. (WSP 2023). These were re-examined by Dr. Saunders and confirmed to morphologically fit in the genus, however Dr. Saunders noted that these types of algae require more work to confirm morphological groups.

Several species are listed on AIS databases, including *H. ovata* (AquaNIS 2015, Costello et al. 2025). Each listed taxon is considered cryptogenic to the region where it was found and either has a natural range that has a reasonable potential to include the Eastern Canadian Arctic (e.g., *H. ovata* and *H. granulosa*) or does not occur in comparable environments to Milne Port (Hewitt et al. 2004, Guiry and Guiry 2025).

- ***Hincksia* sp. is not considered a taxon of concern for Milne Port.**

3.2.5 *Pylaiella* sp. and *Pylaiella washingtoniensis*

The genus *Pylaiella* is a globally common genus with a well documented range in the Canadian Arctic (WoRMS 2025, GBIF 2025). Unidentified *Pylaiella* have been identified in Milne Port since baseline surveys in 2008 and 2010 and observed regularly in subsequent survey years (SEM 2016, WSP 2024). In 2021, specimens collected in Milne Port surveys were tentatively identified as *Pylaiella varia,* an arctic species with a limited collection record (Golder 2022a). DNA barcoding returned a 99% match to unidentified specimens from the family Acinetosporaceae, collected from Cape Hatt in 2016 (see Acinetosporaceae sp. 3AP-2016 in Section 3.2.3). In 2022, some specimens collected during Milne Port surveys were morphologically identified as *P. littoralis* (WSP 2023).

P. littoralis along with *P. washingtoniensis* have been confirmed via barcoding to occur in the Project area prior to Project operations (Küpper et al. 2016). The same study also indicated the presence of a potential third, currently unidentified species. Genetic work is required for this genus. For example, morphologically identified *P. littoralis* specimens collected from around Canada, including in the Eastern Canadian Arctic, were found to be three genetically distinct groups (Saunders and McDevit 2013). *P. washingtoniensis* was originally considered to be a Pacific species, however barcoding reveals a much broader range, with it being common in the Pacific, Atlantic, and Arctic Oceans (Saunders and McDevit 2013, Saunders 2023, Guiry and Guiry 2025).

P. littoralis is listed on AIS databases as alien to European waters (AquaNIS 2015, Costello et al. 2025), however this species is North American in origin and has been confirmed to occur in the Project area prior to Project operations, and therefore is not considered a taxon of concern for Milne Port.

- ***Pylaiella* sp. and *Pylaiella washingtoniensis* are not considered taxa of concern for Milne Port.**

3.2.6 *Dictyosiphon* sp. and *Dictyosiphon foeniculaceus*

This genus clearly occurs in the Eastern Canadian Arctic, however more specific taxonomy is unclear due to significant phenotypic plasticity (WoRMS 2025, GBIF 2025, Saunders and McDevit 2013). Based on morphological descriptions, there are four species in Canadian waters, however molecular work reveals there are at least six with overlapping ranges (Saunders and McDevit 2013). The morphological variation within each genetic group leads to uncertainty over historic collections based on morphology. For example, *D. foeniculaceus* is described as a common species with an apparently broad range with collections in the Canadian Pacific, Arctic, and Atlantic oceans. However, molecular works suggests regional differences in the dominant genetic group. *D. foeniculaceus* collected in the Pacific Ocean were most commonly from a genetic group that was poorly represented in the Atlantic and Arctic oceans (Saunders and McDevit 2013). Further genetic work is needed to resolve this genus.

D. foeniculaceus was confirmed in Milne Port by DNA barcoding in 2021 (Golder 2022a). An additional specimen was considered an inexact morphological match for *D. ekmanii* (Golder 2022a). Previous molecular analysis of collections from Cape Hatt was unable to identify *Dictyosiphon* specimens to species; they did not match sequences for *D. foeniculaceus*, but did match an unknown specimen from Churchill, identified as *Dictyosiphon* sp._1GWS (Küpper et al. 2016). *Dictyosiphon* sp._1GWS was the dominant genetic group collected in Pacific waters and were also represented but not dominant in Arctic and Atlantic collections (Saunders and McDevit 2013).

There are no records of *Dictyosiphon* species in available NIS/AIS databases.

- ***Dictyosiphon* sp. and *Dictyosiphon foeniculaceus* are not considered taxa of concern for Milne Port.**

3.2.7 *Elachista fucicola*

Elachista fucicola is a species of epiphytic brown algae with a broad distribution throughout the North Pacific, North Atlantic and Arctic oceans (WoRMS 2025, GBIF 2025). Canadian records in the Eastern Canadian Arctic include Ragged Island (Küpper et al. 2016).

There have been no previous observations of this species or genus in Milne Port surveys. This is likely due to *Elachista* being an epiphytic genus, which may have been overlooked in the macroalgal collections.

There are no records of *Elachista fucicola* in available NIS/AIS databases.

- ***Elachista fucicola* is not considered a taxon of concern for Milne Port.**

3.2.8 *Stictyosiphon* sp., *Stictyosiphon arcticus*, and *Stictyosiphon tortilis*

Stictyosiphon is a genus of filamentous brown algae. Multiple species are confirmed to occur in the Eastern Canadian Arctic, including at Ragged Island (WoRMS 2025, GBIF 2025, Küpper et al. 2016, Snow et al. 1987). The genus was first recorded in Milne Port in 2022 as *S. tortilis* as well as unidentified *Stictyosiphon* specimens with morphological similarities to *S. tortilis* and *S. soriferus* (WSP 2023).

While not positively identified in the reviewed macroalgae collection, there were indications the unidentified *Stictyosiphon* may have included *S. arcticus*, a species that is poorly represented in the literature. This species was described from specimens collected in Greenland along with specimens collected in Norway and at Cape Hatt, indicating a broad Arctic and North Atlantic range (Pedersen and Kristiansen 1992). This species has morphological similarities with *Chordaria flagelliformis* and *Dictyosiphon foeniculaceus* and may also be misidentified as *Coelocladia arctica* (Pedersen and Kristiansen 1992).

S. tortilis is a well-documented species in the Eastern Canadian Arctic. Surveys at Ragged Island indicate it is among the most dominant flora in the area (Cross et al. 1987, Küpper et al. 2016). This is based on morphological identification and it has not been confirmed molecularly (Küpper et al. 2016).

S. soriferus is recorded as introduced to Australia through the likely vector of hull fouling (Hewitt et al. 2004, AquaNIS 2015). However, this species' natural range includes the North Atlantic and potentially may also include the Eastern Canadian Arctic, indicated by a collection in Churchill (Saunders and McDevit 2013). *Stictyosiphon*

specimens collected at Ragged Island were compared to publicly available sequences for *S. soriferus* and were not a close match (Küpper et al. 2016). Due to the record of introduction and the unclear Eastern Canadian Arctic range, in 2023 this species was designated Low Risk and placed on the Watch List as a precaution. There are no records of other *Stictyosiphon* species in available NIS/AIS databases.

- ***Stictyosiphon* sp., *Stictyosiphon arcticus,* and *Stictyosiphon tortilis* are not considered taxa of concern for Milne Port.**
- ***Stictyosiphon soriferus* was designated Low Risk and remains on the Watch List.**

3.2.9 *Scytosiphon* sp. Group J

While there is confidence that the brown algae genus *Scytosiphon* is naturally present in the Canadian Arctic, there is uncertainty in the species that are present. Collection of barcode data from Canadian Phaeophyceae revealed significant diversity within the genus in Canada, resolving into up to eleven distinct groups, compared to only four described species (McDevit and Saunders 2017). Groups C, D, and J all included collections in Hudson Bay (Group C and D) and the Canadian Arctic (Group J; unpublished data in McDevit and Saunders 2017).

This genus was first tentatively identified in Milne Port in 2022 as cf. *Scytosiphon lomentaria* or cf. *Asperococcus fistulosus,* which is a homotypic synonym with a narrower range (WSP 2023). *Scytosiphon lomentaria* is currently the only species from this genus with a described Arctic range. Morphological identification indicated *S. lomentaria* is present at Cape Hatt, however, this was not confirmed by molecular means (Küpper et al. 2016). Records of *S. lomentaria* in the Canadian Arctic are potentially misidentified *S. canaliculatus* and/or other undescribed *Scytosiphon* sp. (Saunders and McDevit 2013, McDevit and Saunders 2017).

The Milne Port specimens were confidently placed in the genus *Scytosiphon,* while the specific identification was based on experience that *Scytosiphon* sp. Group J is found in Nunavut (Saunders 2024, pers. comm.).

- ***Scytosiphon* sp. Group J is not considered a taxon of concern for Milne Port.**

3.2.10 *Fucus distichus*

Fucus distichus is a common species in the Canadian Arctic and is expected to occur within the Project area (WoRMS 2025, GBIF 2025, Guiry and Guiry 2025). Historic *Fucus* records in the surrounding area include *F. evanescens*, which is accepted as a subspecies of *F. distichus* (WoRMS 2025). However, *F. distichus* subsp. *evanescens* is considered non-native to the Arctic (AquaNIS 2025, Costello et al. 2025). Records of *F. evanescens* in the Canadian Arctic may be misrepresented records of *F. distichus* or other subspecies, confused by revisions in the taxonomy (see Kupper et al. 2016 and Cross et al. 1987).

Fucus sp. has been identified in Milne Port since baseline surveys, where it was initially described as *Fucus distichus* subsp. *edentatus*, based on collections from Steensby Inlet (SEM 2010). This subspecies is not known to occur north of the Hudson Complex (Guiry and Guiry 2025, Lee 1980). Subsequent reports did not clarify species or subspecies, although the genus continued to be observed in surveys (SEM 2014, 2015). *F. distichus* was first identified in Milne Port surveys in 2020, where it was observed in quadrats, as well as along offset habitat on the Ore Dock and Freight Dock (Golder 2021).

- ***Fucus distichus* is not considered a taxon of concern for Milne Port.**

3.2.11 *Alaria esculenta*

Alaria esculenta is a bladed brown alga, commercially farmed in Europe (Ciravegna et al. 2023). *A. esculenta* is considered to be among the dominant kelp species in the eastern Canadian Arctic (Goldsmit et al. 2021). *A. esculenta* is well documented around throughout the Eastern Canadian Arctic, Baffin Island, and has been recorded at Ragged Island prior to Project operations (WoRMS 2025, GBIF 2025, Saunders and McDevit 2013, Lee 1980, Küpper et al. 2016). During baseline surveys, *A. esculenta* was presumed to be present in Milne Port but was only confirmed in Steensby Inlet (SEM 2010). This is the first identification of this species in Milne Port.

Alaria esculenta is listed as alien to parts of the North Sea, however it naturally occurs in the North Sea in areas where water temperatures remain below 16°C (Streftaris et al. 2005, MarLIN 2025). These introductions may be related to commercial farming in regions outside of the optimal temperature range (Ciravegna et al. 2023).

- ***Alaria esculenta* is not considered a taxon of concern for Milne Port.**

3.2.12 *Saccharina* sp., *Saccharina latissima*, *Laminaria* sp., *Laminaria solidungula*

Specimens collected in Milne Port included a mix of *Saccharina* and *Laminaria.* The species present were not confirmed in the samples, due to juveniles of *Saccharina* and *Laminaria* being too similar to differentiate visually, however the samples were considered to contain *S. latissima* and/or *L. solidungula* (Saunders 2024, pers. comm.). The genera *Saccharina* and *Laminaria* are closely related and morphologically similar. *Saccharina* was originally defined in 1809 and *Laminaria* in 1813, but *Laminaria* was selected due to its more common usage (Lane et al. 2006). Molecular investigations of the order Laminariales revealed significant diversity and distinct clades within the genus *Laminaria* that led to the resurrection of the genus *Saccharina* and the transference of multiple former *Laminaria* species to this genus (Lane et al. 2006). Due to these changes, historic records of *Saccharina* and *Laminaria* are difficult to resolve to the current accepted species.

Both genera have broad global ranges and contain currently accepted species with documented ranges that include the Eastern Canadian Arctic (WoRMs 2025, GBIF 2025). Exact records for *Saccharina* and *Laminaria* sp. are difficult to resolve due to the more recent taxonomic changes. For example, *S. latissima* (formerly *L. saccharina* and *L. longicruris*, and other *Laminaria* sp.) and *S. groenlandica* (formerly *L. groenlandica,* but also now accepted as *S. latissima*) are in modern records in the Eastern Canadian Arctic (Saunders and McDevit 2013, Küpper et al. 2016, WoRMS 2025) and are in older records as *Laminaria* species (Lee 1980, Cross et al. 1987, Ellis and Wilce 1961).

Overall, *S. latissima* and *L. solindungula* are accepted as present through the Eastern Canadian Arctic (Saunders and McDevit 2013, Küpper et al. 2016). Additionally, *S. latissima* has been molecularly confirmed to be present at Ragged Island (Küpper et al. 2016) and both these species were molecularly confirmed in the Hudson Complex (Saunders and McDevit 2013). Baseline surveys in Milne Port identified *S. longicruris, S. latissima*, and *L. solidungula* as the most commonly noted bladed kelp species observed in video surveys (SEM 2010, SEM 2016).

Several *Saccharina* and *Laminaria* species are listed on AIS databases (AquaNIS 2015, Costello et al. 2025). However, this includes deliberate introductions via aquaculture (*S. japonica*, Lutaenko et al. 2013). Other records are alternative names for or subspecies of *S. japonica* (AquaNIS 2015, Costello et al. 2025, WoRMS 2025, Lane et al. 2006). Each listed taxon does not occur in comparable environments to Milne Port (Guiry and Guiry 2025). There are no records of *S. latissima* or *L. solidungula* in available NIS/AIS databases.

- ***Saccharina* sp., *Saccharina latissima*, *Laminaria* sp., and *Laminaria solidungula* are not considered taxa of concern for Milne Port.**

3.2.13 *Pseudolithoderma* sp.

Pseudolithoderma is a genus of crustose brown algae. Multiple species are recorded throughout the Canadian Arctic. Records include unidentified species at Cape Hatt, Ragged Island (Cross et al. 1987). Other species recorded in the region include *P. extensum*, *P rosenvingei*, *P. subextensum*, and *P. paradoxum* (Lee 1980, Mathieson et al. 2010). *Pseudolithoderma* has not been previously identified in Milne Port, although it was presumed to be present during baseline surveys based on literature review (SEM 2010).

P. roscoffense, native to North-West Europe is listed on AquaNIS, however there are no details available on its status outside of the native range and it is unclear if it is considered introduced outside of this range (AquaNIS 2015).

- ***Pseudolithoderma* sp. is not considered a taxon of concern for Milne Port.**

3.2.14 *Battersia arctica* and *Battersia racemosa*

Battersia is a genus of filamentous brown algae with at least two Eastern Canadian Arctic species, *B. arctica* and *B. racemosa,* with *B. arctica* being more commonly observed. *B. arctica* and *B. racemosa* appear in older records as *Sphacelaria arctica* and *S. racemosa*, respectively. Some records also include *S. racemosa* var. *arctica,* which is now accepted as *B. arctica* (WoRMS 2025). Due to the variant name not being used consistently in older literature, there is a level of uncertainty regarding older records of *S. racemosa* and which modern descriptions those collections would represent.

Battersia was first observed in Milne Port during the monitoring of offset habitat in 2020. In 2021 unidentified Sphacelariales specimens were tentatively identified as *Battersia* cf. *arctica* and a confident identification of *B. arctica* was made in 2022 (Golder 2022a, WSP 2023).

There are no records of *B. arctica* or *B. racemosa* in available NIS/AIS databases.

- ***Battersia arctica* and *Battersia racemosa* are not considered taxa of concern for Milne Port.**

3.2.15 *Chaetopteris plumosa*

Chaetopteris plumosa is an understory brown algal species with a broad range including records in the Eastern Canadian Arctic and at Ragged Island (WoRMS 2025, GBIF 2025, Guiry and Guiry 2025, Küpper et al. 2016, Cross et al. 1987). Some literature uses the unaccepted name, *Sphacelaria plumosa*, for this species, although both names are often acknowledged. This alternative identification included specimens collected in Steensby Inlet during baseline surveys (SEM 2010).

There are no records of *C. plumosa* or *S. plumosa* in available NIS/AIS databases.

- ***Chaetopteris plumosa* is not considered a taxon of concern for Milne Port.**

3.3 Rhodophyta

3.3.1 *Ahnfeltia borealis*

First described in 2012, *Ahnfeltia borealis* is a species of red algae with a North Atlantic distribution. There are very few collections on record, however, these indicate a broad northern range that includes the eastern Canadian Arctic (WoRMS 2025, GBIF 2025). This species may have been overlooked prior to its description due to similarities with *A. plicata*, which also has an Arctic range (Saunders and McDevit 2013). *A. plicata* records in the Eastern Canadian Arctic (which may potentially represent misidentified *A. borealis*) include Lancaster Sound and Eclipse Sound, including Pond Inlet and Ragged Island (Lee 1980, Cross et al. 1987, Küpper et al. 2016).

Ahnfeltia borealis has not been observed in previous Milne Port surveys. There are no records of *A. borealis* or other *Ahnfeltia* species in available NIS/AIS databases.

- ***Ahnfeltia borealis* is not considered a taxon of concern for Milne Port.**

3.3.2 *Scagelia pylaisaei*

Species in the genus *Scagelia* are cryptic and records determined from morphological examinations in the Canadian Arctic are uncertain (Saunders and McDevit 2013). However, it is assumed that *S. pylaisaei* has a natural range that includes the Eastern Canadian Arctic (Saunders and McDevit 2013). Records in the Eastern Canadian Arctic include Churchill and Ragged Island (Saunders and McDevit 2013, Küpper et al. 2016), as well as in baseline survey algal collections in Steensby Inlet (SEM 2010). In 2022, unidentified Ceramioideae specimens were considered potentially to represent *S. pylaisaei,* however the identification was not able to be confirmed (WSP 2023).

There are no records of *S. pylaisaei* or other *Scagelia* species in available NIS/AIS databases.

- ***Scagelia pylaisaei* is not considered a taxon of concern for Milne Port.**

3.3.3 *Phycodrys fimbriata*

Phycodrys fimbriata is part of a species complex with two other species present in the Arctic and western North Atlantic. *P. fimbriata* is the most common and the only one confirmed to occur in Nunavut (Saunders 2023, WoRMS 2025, GBIF 2025). Species in this complex are morphologically similar and may be confused with other species (Saunders and McDevit 2013, Saunders 2023). Records in the Canadian Arctic are uncertain as a result. *Phycodrys rubens* has been morphologically identified at Ragged Island, however genetic work on this species in Atlantic Canada indicates it is commonly misidentified *P. fimbriata* (Küpper et al. 2016, Saunders and McDevit 2025).

P. fimbriata was identified in Steensby Inlet as part of baseline surveys and in Milne Port in 2021 (SEM 2010, Golder 2022a). There are no records of *P. fimbriata* in available NIS/AIS databases.

- ***Phycodrys fimbriata* is not considered a taxon of concern for Milne Port.**

3.3.4 *Odonthalia dentata*

While this genus as a whole requires further work, records of this species in the Canadian Arctic are considered reliable based on molecular investigations (Saunders and McDevit 2013). This species has a natural Canadian Arctic range that includes records at Ragged Island (Cross et al. 1987, Küpper et al. 2016). Specimens potentially representing *O. dentata* were identified in algal samples collected for DNA in 2021, although they were not among the specimens chosen for sequencing (Golder 2022a).

This was one of the most common species of foliose red algae observed in Steensby Inlet during baseline surveys (SEM 2010). There are no records of *O. dentata* in available NIS/AIS databases.

- ***Odonthalia dentata* is not considered a taxon of concern for Milne Port.**

3.3.5 *Polysiphonia stricta*

Genetic work on the morphospecies indicates there are potentially three species grouped under this name, two of which have been collected in the Eastern Canadian Arctic (Saunders and McDevit 2013). Older Arctic records of this species list are frequently identified as *P. urceolata,* an unaccepted synonym for this species complex (Lee 1980, Mathieson et al. 2010, WoRMS 2025).

In 2022, a specimen of filamentous red algae collected in Milne Port was tentatively identified based on morphology as an unknown species of *Polysiphonia* (WSP 2023).

There are no records of *P. stricta* in available NIS/AIS databases.

- ***Polysiphonia stricta* is not considered a taxon of concern for Milne Port.**

3.3.6 *Rhodomela tenuissima* and *Rhodomela virgata*

Rhodomela is a genus of red algae with multiple species recorded in the Canadian Arctic (GBIF 2025). Records in the Eastern Canadian Arctic include *R. lycopodioides* f. *tenuissima,* which is now accepted as *R. tenuissima* (Lee 1980, WoRMS 2025). In some records, *R. lycopodioides* f. *tenuissima* was shortened to *R. lycopodioides*, a currently accepted name for a morphospecies with at least three distinct genetic groups, which confuses the distribution records for both *R. tenuissima* and *R. lycopodioides* (Lee 1980, Saunders and McDevit 2025). Work is needed to confirm the range of *R. tenuissima*, however it appears to have a broad Arctic range, indicated by collections in the Western Canadian Arctic, Alaska, and Greenland (Saunders 2023, Lund 1959).

The majority of the *Rhodomela* in Milne Port specimens were assigned to *R. virgata*. *R. virgata* is morphologically variable and may be confused with *R. lycopodioides* (Saunders and McDevit 2013, Saunders 2023). The Milne Port specimens matched Canadian Arctic records collected for DNA that were considered a morphological match to *R. virgata*, but there are uncertainties in the taxonomy (Saunders 2023). Despite the uncertainties in taxonomy, it is clear that a species matching the morphology of *R. virgata* and the Milne Port specimens is present elsewhere in the Eastern Canadian Arctic (GBIF 2025, Saunders an McDevit 2013).

R. sibirica was identified in baseline surveys in Steensby Inlet and was presumed to be among the red algae observed in ROV surveys at Milne Port (SEM 2010). This is among the species known to occur at Baffin Island (Saunders 2023). Unknown red algae specimens were tentatively identified as *Rhodomela* in 2021 MEEMP surveys and were tentatively assigned to *Rhodomela confervoides* in 2022 (Golder 2022a, WSP 2023).

There are no records of *Rhodomela* species, including *R. tenuissima* or *R. virgata* in available NIS/AIS databases.

- ***Rhodomela tenuissima* and *Rhodomela virgata* are not considered taxa of concern for Milne Port.**

3.3.7 *Savoiea arctica*

Savoiea is a relatively new genus and is not fully accepted within the available literature (WoRMS 2023, Guiry and Guiry 2025, Wynne 2018). Most Canadian Arctic records for *S. arctica* are under the synonyms *Polyostea arctica, Pterosiphonia arctica,* and *Polysiphonia arctica* (Charette et al. 2020, Lee 1980, Lund 1959, Cross et al. 1987). Under the former names, the species has a broad range throughout the Canadian Arctic, including records at Ragged Island (Küpper et al. 2016, Ellis and Wilce 1961).

S. arctica (as *Polysiphonia arctica*) was the most common of the filamentous red algae in baseline surveys at Steensby Inlet (SEM 2010). First identified in Milne Port as *S. arctica* in 2021 surveys, this species has been observed during quadrat surveys in subsequent years (Golder 2022a, WSP 2023, 2024).

There are no records of *S. arctica, Polyostea arctica, Pterosiphonia arctica* or *Polysiphonia arctica* in available NIS/AIS databases.

- ***Savoiea arctica* is not considered a taxon of concern for Milne Port.**

3.3.8 *Dilsea socialis*

Dilsea socialis, formerly known as *Dilsea integra,* is a species of canopy forming bladed red algae that is well documented through the eastern Canadian Arctic, including records from Ragged Island under both species names (Küpper et al. 2016, Guiry and Guiry 2025, Lee 1980).

D. socialis was identified in baseline surveys in Steensby Inlet and was presumed to be among the red algae observed in ROV surveys at Milne Port (SEM 2010). *D. socialis* was first identified in MEEMP surveys and surveys of reference habitat in Milne Port in 2021 (Golder 2022a, Golder 2022b).

There are no records of *D. socialis* or *D. integra* in available NIS/AIS databases.

- ***Dilsea socialis* is not considered a taxon of concern for Milne Port.**

3.3.9 *Coccotylus truncatus*

Coccotylus truncatus is considered to be the more arctic of the *Coccotylus* species (Saunders and McDevit 2013). *C. truncatus* is a well documented northern species with collections throughout the Eastern Canadian Arctic, including Ragged Island (WoRMS 2025, GBIF 2025, Brown et al. 2011, Cross et al. 1987, Lee 1980). Older records of this algae may be under the former name *Phyllophora truncata* (Lee 1980, Cross et al. 1997).

C. truncatus (as *Phyllophora truncata*) was identified in baseline surveys in Steensby Inlet where it was among the most common foliose red algae and was presumed to be among the red algae observed in ROV surveys at Milne Port (SEM 2010). *C. truncatus* was first identified in MEEMP surveys and surveys of reference habitat in Milne Port in 2021 (Golder 2022a, Golder 2022b)

There are no records of *C. truncatus* or *P. truncata* in available NIS/AIS databases.

- ***Coccotylus truncatus* is not considered a taxon of concern for Milne Port.**

4.0 CONCLUSION

Review of the macroalgal specimen inventory identified 39 distinct taxa, seventeen of which had been identified in previous years. An analysis of the available literature indicated each of the new records had a clearly described range and collection records that included Arctic waters or had reasonable likelihood of including the Eastern Canadian Arctic. Each macroalgae taxon was cross-checked against marine invasive species databases. None of the taxa observed were identified as globally recognized invasive species (Molnar et al. 2008) or as domestically recognized invasive species according to the National Risk Assessment for Introduction of Aquatic Nonindigenous Species to Canada by Ballast Water (Casas-Monroy et al. 2014). In addition to these databases, the distribution and habitat preferences of each taxon was researched independently in the literature for signs of NIS status in the Arctic region. For specimens that could not be resolved to species, review efforts focused on confirming that the higher-level classification (e.g., genus) had at least one species with a distribution that included Arctic waters. Where taxa or representative taxa were listed on NIS/AIS databases, flagged species were found to either already occur naturally in the Eastern Canadian Arctic or were not found in comparable environments to Milne Port. No taxa identified in review of Milne Port algal specimens were considered to represent taxa of concern in Milne Port.

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APPENDIX 8B-6

Macroalgae Identification Methods

March 18, 2025

Report by Gary W. Saunders, University of New Brunswick, for WSP Canada Inc.
Baffinland Iron Mines Corp. / Mary River Project

UNB contract: Assist in Taxonomic & Biogeographic Analyses of Macroalgae

Submission No. 2_002(final): A report on the macroalgae collected in 2024 and a composite list including the new records and updates to archival material 2017-2023 – due March 15, 2025.

The identifications were largely based on the following references, as well as 30 years' experience studying seaweed in the NW Atlantic including work in the arctic: Moller Pedersen (2022), Nielsen et al. (2022a, 2022b), and Saunders (2024; including information on the companion webpage seaweedcanada.ca). Other useful works for linking specimens to genetic groups and understanding cryptic diversity in the arctic included: Bringloe et al. (2017, 2019a, 2019b, 2020), Küpper et al. (2016) and Saunders & McDevit 2013). Among other works as needed, historical context was found in Taylor (1957) and Lee (1980).

Samples from 2024 were identified morphologically and, where samples worked for DNA extraction, through genetic tools. The level of identification is recorded as 'Human observation' and 'Human Observation & Sanger Sequencing', respectively. The records are in the appended Excel sheet '2024_Nunavut_Report'. A few notable observations were made, and these are highlighted in Column N (Notable). These continue to grow the list of potential arctic endemic species, in support of past glacial refugia in this region (Bringloe et al. 2020). Field crews in 2025 should have an eye out to target these species.

In addition the data obtained through NextGen sequencing are appended as a separate spreadsheet (2024_Nunavut_NextGen_Report). These data must be used conservatively as they are prone to both positive and negative errors. False positives are especially likely when a scrape contains little material for the target marker; e.g., all of our putative false positives were obtained with the red seaweed specific marker COII-COIII – prior to our analyses Olivia noted that there was almost no red material in the scrapes. With little in the tube to compete for the PCR reagents, even the smallest amount of contaminant is likely to be amplified. Despite the shortcomings of metabarcoding data, they are however useful at flagging species for field teams to monitor.

To facilitate the previous task of searching for specific species, we have provided the NextGen data at two levels of confidence indicated in each record's accession number. For example, NGenWSP240051(T4) indicates more reads being recovered (T4) meaning the species is likely in the flora versus accession numbers ending in (T1), which have a much lower threshold of recovery (potential false positives), but we should be aware that they may be present. Although we have encountered species at both the T4 and T1 level that we have not previously collected in Nunavut, all of the species uncovered we have found elsewhere in Arctic or subarctic floras (notably Churchill, MB, Labrador, down to Les Escoumins, QC) and it is my opinion that they are likely members of the base algal flora in Milne Inlet. The few exceptions are included in the attached spreadsheet (2024_Nunavut_NextGen_Report) with my notes. One final caveat must be

considered in using the LSU D2 data. This marker is conservative and cannot discriminate among closely related species. Thus a 100% match could be correct or belong to a different species not yet in our database that is closely related to the match. The secondary lineage-specific markers are used in part to augment this shortcoming and improve the resolution that we can provide in these metabarcoding lists.

Based on better anatomical observations combined with the 2024 sequence data, I was able to improve identifications for the specimens covered in our first report (No. 1_001). These updates are included in a second spreadsheet, which also includes the 2024 data, appended here as '2024_Composite_Report'.

Our success in obtaining sequences from the 2024 material was lower than we typically expect. This was likely due to Olivia being new to completing these tasks on her own and we have discussed some steps to take to ensure enhanced returns for 2025. To be fair, it can take years to master these protocols and she did very well for her first solo mission. Consequently, there were some wonderful results from Olivia's work, and some tantalizing uncertainties in need of further study. Notably, some of the key finds (e.g. *Litosiphon* sp. 1Arctic and *Stictyosiphon articus*) still await confirmation through DNA analyses, while others with sequence data but for which we lack sufficient vouchers to characterize them morphologically (e.g. *Elachista* sp. 1 Arctic, *Polysiphonia kapraunii* and *Scytosiphon* sp. 1 crust). All of these, along with taxa flagged in the NextGen spreadsheet (2024_Nunavut_NextGen_Report), should be targeted during the 2025 season.

In summary, everything that I viewed was within the bounds of an arctic flora in my experience. The species are all likely components of the Arctic flora.

Respectfully submitted,

Gary W. Saunders

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APPENDIX 8B-7

Fish Stomach Laboratory Methods

Fish Stomach Enumeration and Identification Methods
Client: WSP
Project: Baffinland MEEMP

Sample Inventory

Sample arrival: 30-Aug-24
Number of samples: 92: 60 processed, 32 on hold
Biologica project number: ms24-033

Upon arrival, the samples were examined and double-checked against the chain of custody to ensure that (1) all samples were accounted for, and (2) each sample had the appropriate number of jars as indicated on the COC. Any discrepancies were reported to the client and were resolved before further sample handling. Samples were then assigned a unique identification number. Stomachs arrived already removed from fish and preserved in formalin.

Table 1. Summary of fish stomachs processed for WSP Baffinland MEEMP, 2024.

Client Sample ID	Date Sampled	Biologica Sample ID	Fish	% Stomach Fullness	% Material Digested	Full Stomach Weight (g)
BAFF24UDPFFHSC1001	04-Aug-24	ms24-033-136	Fourhorn Sculpin	100	25	20.55182
BAFF24UDPFFHSC1002	04-Aug-24	ms24-033-137	Fourhorn Sculpin	100	100	3.09678
BAFF24UDPFFHSC1003	04-Aug-24	ms24-033-138	Fourhorn Sculpin	25	75	5.22891
BAFF24UDPFFHSC1004	04-Aug-24	ms24-033-139	Fourhorn Sculpin	100	100	12.28651
BAFF24UDPFFHSC1006	04-Aug-24	ms24-033-141	Fourhorn Sculpin	25	100	7.11293
BAFF24UDPFFHSC1011	04-Aug-24	ms24-033-146	Fourhorn Sculpin	75	100	9.72847
BAFF24UDPFFHSC1012	04-Aug-24	ms24-033-147	Fourhorn Sculpin	75	75	29.68573
BAFF24UDPFFHSC1014	04-Aug-24	ms24-033-149	Fourhorn Sculpin	50	100	5.37250
BAFF24UDPFFHSC1015	04-Aug-24	ms24-033-150	Fourhorn Sculpin	50	100	4.47916
BAFF24UDPFFHSC1016	04-Aug-24	ms24-033-151	Fourhorn Sculpin	50	100	3.89131
BAFF24UDPFFHSC1021	04-Aug-24	ms24-033-156	Fourhorn Sculpin	50	100	3.88662
BAFF24UDPFFHSC1022	04-Aug-24	ms24-033-157	Fourhorn Sculpin	75	100	5.37813
BAFF24UDPFFHSC1023	04-Aug-24	ms24-033-158	Fourhorn Sculpin	25	100	2.65917
BAFF24UDPFFHSC1025	05-Aug-24	ms24-033-160	Fourhorn Sculpin	75	100	10.80723
BAFF24UDPFFHSC1026	05-Aug-24	ms24-033-161	Fourhorn Sculpin	50	100	6.73290
BAFF24UDPFFHSC1027	05-Aug-24	ms24-033-162	Fourhorn Sculpin	0	100	3.74044
BAFF24UDPFFHSC1029	05-Aug-24	ms24-033-164	Fourhorn Sculpin	0	100	4.55122
BAFF24UDPFFHSC1030	05-Aug-24	ms24-033-165	Fourhorn Sculpin	50	100	6.46095
BAFF24UDPFFHSC1031	05-Aug-24	ms24-033-166	Fourhorn Sculpin	75	100	7.11023
BAFF24UDPFFHSC1032	05-Aug-24	ms24-033-167	Fourhorn Sculpin	0	100	3.31821
BAFF24UDPFFHSC1034	05-Aug-24	ms24-033-169	Fourhorn Sculpin	50	100	8.91804
BAFF24UDPFFHSC1035	05-Aug-24	ms24-033-170	Fourhorn Sculpin	50	100	3.47132
BAFF24UDPFFHSC1037	08-Aug-24	ms24-033-172	Fourhorn Sculpin	100	100	32.23203

Client Sample ID	Date Sampled	Biologica Sample ID	Fish	% Stomach Fullness	% Material Digested	Full Stomach Weight (g)
BAFF24UDPFFHSC1038	08-Aug-24	ms24-033-173	Fourhorn Sculpin	75	50	9.39899
BAFF24UDPFFHSC1040	08-Aug-24	ms24-033-175	Fourhorn Sculpin	50	100	9.57372
BAFF24UREFFHSC2001	03-Aug-24	ms24-033-176	Fourhorn Sculpin	0	100	2.29935
BAFF24UREFFHSC2002	03-Aug-24	ms24-033-177	Fourhorn Sculpin	25	100	10.04563
BAFF24UREFFHSC2004	03-Aug-24	ms24-033-179	Fourhorn Sculpin	0	100	12.76674
BAFF24UREFFHSC2005	03-Aug-24	ms24-033-180	Fourhorn Sculpin	75	100	6.91222
BAFF24UREFFHSC2008	03-Aug-24	ms24-033-183	Fourhorn Sculpin	0	100	5.56602
BAFF24UREFFHSC2010	03-Aug-24	ms24-033-185	Fourhorn Sculpin	0	100	1.25097
BAFF24UREFFHSC2011	03-Aug-24	ms24-033-186	Fourhorn Sculpin	25	50	8.99201
BAFF24UREFFHSC2012	03-Aug-24	ms24-033-187	Fourhorn Sculpin	25	75	9.01641
BAFF24UREFFHSC2014	09-Aug-24	ms24-033-189	Fourhorn Sculpin	0	100	3.59288
BAFF24UREFFHSC2015	09-Aug-24	ms24-033-190	Fourhorn Sculpin	0	100	2.25804
BAFF24UREFFHSC2016	09-Aug-24	ms24-033-191	Fourhorn Sculpin	25	100	4.38341
BAFF24UREFFHSC2018	09-Aug-24	ms24-033-193	Fourhorn Sculpin	25	100	1.15140
BAFF24UREFFHSC2019	09-Aug-24	ms24-033-194	Fourhorn Sculpin	50	75	2.97185
BAFF24UREFFHSC2021	09-Aug-24	ms24-033-196	Fourhorn Sculpin	0	100	1.78677
BAFF24UREFFHSC2022	09-Aug-24	ms24-033-197	Fourhorn Sculpin	25	75	2.40808
BAFF24UREFFHSC2023	09-Aug-24	ms24-033-198	Fourhorn Sculpin	50	100	6.02460
BAFF24UREFFHSC2025	09-Aug-24	ms24-033-200	Fourhorn Sculpin	100	75	12.85457
BAFF24UREFFHSC2030	09-Aug-24	ms24-033-205	Fourhorn Sculpin	50	75	7.13678
BAFF24UREFFHSC2031	07-Aug-24	ms24-033-206	Fourhorn Sculpin	50	50	6.49754
BAFF24UREFFHSC2032	07-Aug-24	ms24-033-207	Fourhorn Sculpin	0	100	4.61607
BAFF24UREFFHSC2033	08-Aug-24	ms24-033-208	Fourhorn Sculpin	0	100	1.67066
BAFF24UREFFHSC2035	08-Aug-24	ms24-033-210	Fourhorn Sculpin	75	25	4.66901
BAFF24UREFFHSC2037	16-Aug-24	ms24-033-212	Fourhorn Sculpin	25	25	7.20518
BAFF24UREFFHSC2038	16-Aug-24	ms24-033-213	Fourhorn Sculpin	25	50	6.06110
BAFF24UREFFHSC2039	16-Aug-24	ms24-033-214	Fourhorn Sculpin	50	50	2.15468
BAFF24UDPFARCH4001	07-Aug-24	ms24-033-215	Arctic Char	25	100	3.60282
BAFF24UDPFARCH4002	07-Aug-24	ms24-033-216	Arctic Char	50	50	7.22002
BAFF24UDPFARCH4003	08-Aug-24	ms24-033-217	Arctic Char	25	100	9.91444
BAFF24UDPFARCH4004	08-Aug-24	ms24-033-218	Arctic Char	25	75	11.54355
BAFF24UDPFARCH4005	08-Aug-24	ms24-033-219	Arctic Char	75	50	61.15800
BAFF24UDPFARCH4006	08-Aug-24	ms24-033-220	Arctic Char	25	100	10.49591
BAFF24UDPFARCH4009	11-Aug-24	ms24-033-223	Arctic Char	25	100	6.80288
BAFF24UDPFARCH4010	11-Aug-24	ms24-033-224	Arctic Char	50	75	6.35614
BAFF24UDPFARCH4012	17-Aug-24	ms24-033-226	Arctic Char	25	100	7.23533
BAFF24UDPFARCH4013	18-Aug-24	ms24-033-227	Arctic Char	25	100	8.44441

Sample Processing

Before dissection and identification, the percent fullness and percent digestion of each stomach was recorded based on the professional judgement of the taxonomist(s). For each new project, if multiple

taxonomists are involved, they must agree on the categorization for the first 30 stomachs to ensure consistency of reporting.

The stomach contents were dissected out and weighed as per the following protocol:

1. Intestines were removed just anterior to the pyloric caecae and discarded. The esophagus was included with the stomach.

2. Excess moisture was blotted from the food bolus with paper towel, avoiding excessive pressure on the food bolus and the full stomach weight was taken. For stomachs that were damaged prior to analysis the stomach contents found outside of the stomach were weighed individually in their prey grouping and added to the total stomach weight.

3. A longitudinal incision was made with a scalpel or scissors, avoiding damage to the contents, to reveal the food bolus. At this time stomach fullness was determined and the corresponding code for the degree of fullness is recorded (Table 2). Fullness was estimated by considering two factors: the degree of distention of the stomach, and the weight of the bolus relative to the size of the fish.

Table 2. Stomach fullness categories.

0	Empty
10	Trace of prey
25	Trace–25% full
50	25–50% full
75	50–75% full
100	75–100% full (distended)

4. Percent digestion was determined based on the following categories. This ranking was given before the bolus was dissected based on observable condition of the prey organisms (Table 3).

Table 3. Percent digestion of stomach contents.

0	All material is undigested, only whole organisms visible
0–10	Trace only; few posterior-most prey items are digested
25	10–25% digested. Posterior-most 25% digested and more than half of the organisms are whole
50	25–50% digested; approximately half of the organisms are whole
75	50–75% digested, less than half of organisms are whole
100	All material is digested, no whole organisms visible

5. Material that was obviously composed of parasites, stomach lining, rocks, or any other non-prey is removed. (These items were not included in the stomach weight but were noted in the comments).

6. The bolus was dissected, working anterior-posterior. Prey items were identified to the lowest practical taxonomic level (species when possible). Digested and unidentifiable material were categorized (e.g., unidentified Insect parts, digested tissue, non-food, etc.). Each identifiable unit

(taxon or category) was placed in small drops of water on petri dish to prevent desiccation during the identification process. Chironomidae were slide-mounted for identification.

7. All prey categories (taxa and unidentifiable categories) were blotted and weighed to the nearest 0.01 mg of wet weight.

Data

Results were provided to the WSP Baffinland project manager in Excel spreadsheets via email.

Selected Methodological and Taxonomic References

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APPENDIX 8B-8

NextGen Sequencing Results

#	Division	Class	Order	Family	Name	Hab.	Coll.	Date	Geo.	Lat	Long	GoSL Basis of Recor	NextGen	Note
NGenWSP240036(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 3GWS	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8847	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240037(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 3GWS	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240038(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 3GWS	Subtidal (5m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240039(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 3GWS	Subtidal (17m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240040(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 3GWS	Subtidal (12.8m) on Settlement plate, West Freight dock composite scrape	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240041(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 3GWS	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240016(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240017(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240018(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240019(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240020(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (12.8m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240021(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240022(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8847	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240023(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8838	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240024(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240025(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240026(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (5m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240027(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (17m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240028(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (12.8m) on Settlement plate, West Freight dock composite scrape	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240029(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240030(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8868	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240031(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8868	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240032(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240061(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240062(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240063(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (5m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240064(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (17m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240065(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 6GWS	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240033(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 8GWS	Subtidal (12.8m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240034(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 8GWS	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240035(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Acrosiphonia sp. 8GWS	Subtidal (17m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240042(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Spongomorpha aeruginosa	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240043(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Spongomorpha aeruginosa	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240044(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Spongomorpha aeruginosa	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240045(T4)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Spongomorpha aeruginosa	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8838	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240046(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Spongomorpha aeruginosa	Subtidal (12.8m) on Settlement plate, West Freight dock composite scrape	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240047(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Spongomorpha aeruginosa	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	

#	Division	Class	Order	Family	Name	Hab.	Coll.	Date	Geo.	Lat	Long	GoSL Basis of Recor	NextGen	Note
NGenWSP240048(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Spongomorpha aeruginosa	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240049(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Spongomorpha aeruginosa	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240050(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Spongomorpha aeruginosa	Subtidal (12.8m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240191(T1)	Chlorophyta	Ulvophyceae	Acrosiphoniales	Acrosiphoniaceae	Spongomorpha aeruginosa	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240080(T1)	Chlorophyta	Ulvophyceae	Cladophorales	Cladophoraceae	Chaetomorpha brachygona	Subtidal (12.8m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Not aware of Arctic records, but certainly possible. Need to collect more of this thin unattached and attached
NGenWSP240072(T4)	Chlorophyta	Ulvophyceae	Cladophorales	Cladophoraceae	Chaetomorpha melagonium	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	31.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240073(T4)	Chlorophyta	Ulvophyceae	Cladophorales	Cladophoraceae	Chaetomorpha melagonium	Subtidal (12.8m) on Settlement plate, West Freight dock composite scrape	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240074(T4)	Chlorophyta	Ulvophyceae	Cladophorales	Cladophoraceae	Chaetomorpha melagonium	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240075(T1)	Chlorophyta	Ulvophyceae	Cladophorales	Cladophoraceae	Chaetomorpha melagonium	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240076(T1)	Chlorophyta	Ulvophyceae	Cladophorales	Cladophoraceae	Chaetomorpha melagonium	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240077(T1)	Chlorophyta	Ulvophyceae	Cladophorales	Cladophoraceae	Chaetomorpha melagonium	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240079(T1)	Chlorophyta	Ulvophyceae	Cladophorales	Cladophoraceae	Chaetomorpha sp.	Subtidal (12.8m) on Settlement plate, West Freight dock composite scrape	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Could be Chaetomorpha sp. 3GWS which we got for ITS but needs to be added to LSUD2 ref library.
NGenWSP240051(T4)	Chlorophyta	Ulvophyceae	Cladophorales	Cladophoraceae	Chaetomorpha sp. 3GWS	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	Only one previous collection of this genetic group, a spring (April) collection from Massachusetts. Morphologically this species matches some of the vouchers that I have observed in the Milne Inlet material, but for which we have yet to acquire comparative sequences data.
NGenWSP240151(T1)	Chlorophyta	Ulvophyceae	Cladophorales	Cladophoraceae	Rhizoclonium riparium (Rot	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8838	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240008(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Ulothrix flacca (Dillwyn) Thu	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240009(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Ulothrix spp.	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240010(T4)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Ulothrix spp.	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240011(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Ulothrix spp.	Subtidal (12.8m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8899	-80.8868	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240012(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Ulothrix spp.	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240013(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Ulothrix spp.	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240014(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Ulothrix spp.	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240015(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Ulothrix spp.	Subtidal (12.8m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8899	-80.8868	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240214(T4)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Ulothrix spp.	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240215(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Ulothrix spp.	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240216(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Ulothrix spp.	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240007(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Ulothrix subflaccida Wille	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240002(T4)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Urospora neglecta (Kornma	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240003(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Urospora neglecta (Kornma	Subtidal (5m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240004(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Urospora neglecta (Kornma	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240005(T4)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Urospora neglecta (Kornma	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240006(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Urospora neglecta (Kornma	Subtidal (12.8m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8899	-80.8868	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240001(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Urospora penicilliformis (R	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Green ITS (GrMetF2/CladoITS7Rn); MiSeq	
NGenWSP240221(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Urospora spp.	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240222(T4)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Urospora spp.	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240223(T1)	Chlorophyta	Ulvophyceae	Ulotrichales	Ulotrichaceae	Urospora spp.	Subtidal (5m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	

#	Division	Class	Order	Family	Name	Hab.	Coll.	Date	Geo.	Lat	Long	GoSL Basis of Recor	NextGen	Note
NGenWSP240078(T1)	Chlorophyta	Ulvophyceae	Ulvales	Kornmanniaceae	Blidingia sp. 2subsalsa (Kje	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240217(T1)	Chlorophyta	Ulvophyceae	Ulvales	Ulvaceae	Ulvaria splendens (Ruprech	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240218(T1)	Chlorophyta	Ulvophyceae	Ulvales	Ulvaceae	Ulvaria splendens (Ruprech	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240219(T1)	Chlorophyta	Ulvophyceae	Ulvales	Ulvaceae	Ulvaria splendens (Ruprech	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240220(T1)	Chlorophyta	Ulvophyceae	Ulvales	Ulvaceae	Ulvaria splendens (Ruprech	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240276(T1)	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia aculeata (Linn	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	31.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240277(T4)	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia aculeata (Linn	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240278(T1)	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia aculeata (Linn	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240279(T1)	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia aculeata (Linn	Subtidal (17m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240280(T4)	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia aculeata (Linn	Subtidal (12.8m) on Settlement plate, West Freight dock composite scrape	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240281(T1)	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia aculeata (Linn	Subtidal (12.8m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8899	-80.8868	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240282(T1)	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia aculeata (Linn	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240083(T1)	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia aculeata/inter	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240317(T4)	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia ligulata (Lightf	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	Interesting find and worth looking for to have morphological confirmation. Known from Alaska, Norway, etc., but I am not aware of records for the Canadian arctic. Could be there as gametophyte only; or a lab contam?
NGenWSP240233(T1)	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia sp.	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	30.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	POSSIBLY sp. 1Arctic, need to add to database
NGenWSP240234(T4)	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia sp.	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	POSSIBLY sp. 1Arctic, need to add to database
NGenWSP240235(T1)	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia sp.	Subtidal (12.8m) on Settlement plate, West Freight dock composite scrape	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	POSSIBLY sp. 1Arctic, need to add to database
NGenWSP240084(T1)	Ochrophyta	Phaeophyceae	Desmarestiales	Desmarestiaceae	Desmarestia sp. 1Arctic	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240052(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Acinetosporaceae_gen sp.	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	LSUD2 does not discriminate between these two species. Both occur in the arctic.
NGenWSP240053(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Acinetosporaceae_gen sp.	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	LSUD2 does not discriminate between these two species. Both occur in the arctic.
NGenWSP240054(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Acinetosporaceae_gen sp.	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	LSUD2 does not discriminate between these two species. Both occur in the arctic.
NGenWSP240055(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Acinetosporaceae_gen sp.	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	LSUD2 does not discriminate between these two species. Both occur in the arctic.
NGenWSP240056(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Acinetosporaceae_gen sp.	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	LSUD2 does not discriminate between these two species. Both occur in the arctic.
NGenWSP240057(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Acinetosporaceae_gen sp.	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	LSUD2 does not discriminate between these two species. Both occur in the arctic.
NGenWSP240058(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Acinetosporaceae_gen sp.	Subtidal (17m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	LSUD2 does not discriminate between these two species. Both
NGenWSP240059(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Acinetosporaceae_gen sp.	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	LSUD2 does not discriminate between these two species. Both occur in the arctic.
NGenWSP240060(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Acinetosporaceae_gen sp.	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	LSUD2 does not discriminate between these two species. Both occur in the arctic.
NGenWSP240122(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella littoralis (Linnaeus	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240123(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella littoralis (Linnaeus	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240124(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella littoralis (Linnaeus	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240125(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella littoralis (Linnaeus	Subtidal (12.8m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8899	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240126(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella littoralis (Linnaeus	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240127(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella littoralis (Linnaeus	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240239(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240240(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240241(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	

#	Division	Class	Order	Family	Name	Hab.	Coll.	Date	Geo.	Lat	Long	GoSL Basis of Recor	NextGen	Note
NGenWSP240242(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	31.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240243(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240244(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	30.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240245(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (12.8m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240246(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240247(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240259(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (12.8m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8899	-80.8868	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240260(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240128(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240129(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240130(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (12.8m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8899	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240131(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240132(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	31.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240133(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240134(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240135(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240136(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240137(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (17m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240138(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (12.8m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8899	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240139(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240140(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Acinetosporaceae	Pylaiella washingtoniensis /	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240082(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Chordaria chordaeformis (K	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240329(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Chordaria flagelliformis (O.	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240113(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Chordariacean sp.	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Need to add to the Chordariaceae for reference database.
NGenWSP240085(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Dictyosiphon spp.	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240105(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Elachista sp. 1Arctic	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240106(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Elachista sp. 1Arctic	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240107(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Elachista sp. 1Arctic	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240108(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Elachista sp. 1Arctic	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240109(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Elachista sp. 1Arctic	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240110(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Elachista sp. 1Arctic	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	31.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240328(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Microspongium sp. 4GWS	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240114(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Polycerea borealis Vinograd	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240115(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Polycerea borealis Vinograd	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240116(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Polycerea borealis Vinograd	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240119(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Punctaria spp.	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240120(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Punctaria spp.	Subtidal (12.8m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240121(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Punctaria spp.	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8847	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240166(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Saundersella doloresiae G.	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	

#	Division	Class	Order	Family	Name	Hab.	Coll.	Date	Geo.	Lat	Long	GoSL Basis of Recor	NextGen	Note
NGenWSP240167(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Saundersella doloresiae G.	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240168(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Saundersella doloresiae G.	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240169(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Saundersella doloresiae G.	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240170(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Saundersella doloresiae G.	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240171(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Saundersella doloresiae G.	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8838	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240172(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Saundersella doloresiae G.	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240192(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240193(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240194(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240195(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	30.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240196(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240197(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240198(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240199(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240200(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8847	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240201(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8838	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240202(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240203(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240204(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240205(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (5m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240206(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (17m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240207(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (12.8m) on Settlement plate, West Freight dock composite scrape	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240208(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240209(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240210(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240211(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240212(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae	Stictyosiphon tortilis (Gobi)	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240330(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp.	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	Matches a specimen we have from Bay of Fundy as well as one in GenBank from Greenland.
NGenWSP240261(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240262(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240290(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240291(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240292(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240293(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240294(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	31.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240295(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240296(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240297(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	30.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	

#	Division	Class	Order	Family	Name	Hab.	Coll.	Date	Geo.	Lat	Long	GoSL Basis of Recor	NextGen	Note
NGenWSP240298(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240299(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240300(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (12.8m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240301(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240302(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8847	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240303(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8838	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240304(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240305(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240306(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240307(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (5m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240308(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (17m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240309(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (12.8m) on Settlement plate, West Freight dock composite scrape	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240310(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (12.8m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8899	-80.8868	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240311(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240312(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240313(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8868	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240314(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240315(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240316(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240086(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240087(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8838	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240088(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240089(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240090(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240091(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (12.8m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240092(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240093(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240094(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240095(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240096(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (17m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240097(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240098(T4)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240099(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240100(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae	Ectocarpus sp. 1siliculosus	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240111(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Petalonia arctica/fascia	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240112(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Planosiphon filiformis (Batt	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240173(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon shibazakiorum	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240174(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon shibazakiorum	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	

#	Division	Class	Order	Family	Name	Hab.	Coll.	Date	Geo.	Lat	Long	GoSL Basis of Recor	NextGen	Note
NGenWSP240175(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon shibazakiorum	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240176(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon shibazakiorum	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240177(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon shibazakiorum	Subtidal (5m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240178(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon sp. 1crust	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Only one previously confirmed collection; Churchill.
NGenWSP240179(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon sp. 1crust	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Only one previously confirmed collection; Churchill.
NGenWSP240180(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon sp. 1crust	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Only one previously confirmed collection; Churchill.
NGenWSP240181(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon sp. 1crust	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Only one previously confirmed collection; Churchill.
NGenWSP240182(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon sp. 1crust	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Only one previously confirmed collection; Churchill.
NGenWSP240183(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon sp. 1crust	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Only one previously confirmed collection; Churchill.
NGenWSP240184(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon sp. 1crust	Subtidal (12.8m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Only one previously confirmed collection; Churchill.
NGenWSP240185(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon sp. 1crust	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Only one previously confirmed collection; Churchill.
NGenWSP240186(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon sp. 1crust	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Only one previously confirmed collection; Churchill.
NGenWSP240187(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon sp. 1crust	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Only one previously confirmed collection; Churchill.
NGenWSP240188(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon sp. 1crust	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Only one previously confirmed collection; Churchill.
NGenWSP240189(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon sp. 1crust	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Only one previously confirmed collection; Churchill.
NGenWSP240190(T1)	Ochrophyta	Phaeophyceae	Ectocarpales	Scytosiphonaceae	Scytosiphon sp. 1crust	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Only one previously confirmed collection; Churchill.
NGenWSP240101(T4)	Ochrophyta	Phaeophyceae	Fucales	Fucaceae	Fucus distichus Linnaeus	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	31.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240255(T4)	Ochrophyta	Phaeophyceae	Laminariales	Agaraceae	Agarum clathratum Dumort	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	31.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240256(T1)	Ochrophyta	Phaeophyceae	Laminariales	Agaraceae	Agarum clathratum Dumort	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240236(T1)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	30.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240248(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240249(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240250(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240251(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240252(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8868	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240253(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240254(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240263(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240264(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240265(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240266(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240267(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	30.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240268(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240269(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240270(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8847	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240271(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8838	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240272(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (17m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240273(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (12.8m) on Settlement plate, West Freight dock composite scrape	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	

#	Division	Class	Order	Family	Name	Hab.	Coll.	Date	Geo.	Lat	Long	GoSL Basis of Recor	NextGen	Note
NGenWSP240274(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8868	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240275(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240152(T1)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240153(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (11.3m) on Settlement plate	N. OBrien, P. Hinton	29.7.2024	Milne Inlet, Baffin Island	71.9149	-80.7992	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240154(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (12.8m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240155(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240156(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8838	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240157(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240158(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240159(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240160(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240161(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240162(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240163(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240164(T4)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (17m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240165(T1)	Ochrophyta	Phaeophyceae	Laminariales	Arthrothamnaceae	Saccharina latissima (Linna	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240257(T1)	Ochrophyta	Phaeophyceae	Laminariales	Laminariaceae	Laminaria solidungula J.Aga	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240104(T1)	Ochrophyta	Phaeophyceae	Laminariales	Laminariaceae	Laminaria solidungula J.Aga	Subtidal (12.8m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240141(T1)	Ochrophyta	Phaeophyceae	Ralfsiales	Ralfsiaceae	Ralfsia sp. 1Arctic	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Something new; need to collect more brown crusts.
NGenWSP240142(T1)	Ochrophyta	Phaeophyceae	Ralfsiales	Ralfsiaceae	Ralfsia sp. 1Arctic	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Something new; need to collect more brown crusts.
NGenWSP240143(T1)	Ochrophyta	Phaeophyceae	Ralfsiales	Ralfsiaceae	Ralfsia sp. 1Arctic	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Something new; need to collect more brown crusts.
NGenWSP240144(T1)	Ochrophyta	Phaeophyceae	Ralfsiales	Ralfsiaceae	Ralfsia sp. 1Arctic	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	31.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Something new; need to collect more brown crusts.
NGenWSP240145(T1)	Ochrophyta	Phaeophyceae	Ralfsiales	Ralfsiaceae	Ralfsia sp. 1Arctic	Subtidal (12.8m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Something new; need to collect more brown crusts.
NGenWSP240146(T1)	Ochrophyta	Phaeophyceae	Ralfsiales	Ralfsiaceae	Ralfsia sp. 1Arctic	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Something new; need to collect more brown crusts.
NGenWSP240147(T1)	Ochrophyta	Phaeophyceae	Ralfsiales	Ralfsiaceae	Ralfsia sp. 1Arctic	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Something new; need to collect more brown crusts.
NGenWSP240148(T1)	Ochrophyta	Phaeophyceae	Ralfsiales	Ralfsiaceae	Ralfsia sp. 1Arctic	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Something new; need to collect more brown crusts.
NGenWSP240149(T1)	Ochrophyta	Phaeophyceae	Ralfsiales	Ralfsiaceae	Ralfsia sp. 1Arctic	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Something new; need to collect more brown crusts.
NGenWSP240150(T1)	Ochrophyta	Phaeophyceae	Ralfsiales	Ralfsiaceae	Ralfsia sp. 1Arctic	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Something new; need to collect more brown crusts.
NGenWSP240237(T4)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240238(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240283(T4)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	31.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240284(T4)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240285(T4)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (5m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240286(T4)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240287(T4)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240288(T4)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240289(T4)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Brown ITS (P1, NexlTSR1); MiSeq	
NGenWSP240066(T4)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	31.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240067(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8838	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	

#	Division	Class	Order	Family	Name	Hab.	Coll.	Date	Geo.	Lat	Long	GoSL Basis of Recor	NextGen	Note
NGenWSP240068(T4)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.89	-80.8846	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240069(T4)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (5m) on Rock	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240070(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240071(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Battersia arctica (Harvey) D	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240318(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Chaetopteris plumosa (Lyn	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240319(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Chaetopteris plumosa (Lyn	Subtidal (12.8m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.9185	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240320(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Chaetopteris plumosa (Lyn	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8875	-80.918	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240321(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Chaetopteris plumosa (Lyn	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8902	-80.8838	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240322(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Chaetopteris plumosa (Lyn	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8839	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240323(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Chaetopteris plumosa (Lyn	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240324(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Chaetopteris plumosa (Lyn	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240325(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Chaetopteris plumosa (Lyn	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240326(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Chaetopteris plumosa (Lyn	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240081(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Sphacelariaceae	Chaetopteris plumosa (Lyn	Subtidal (11.3m) on Settlement plate	P. Hinton, K. Lindsay	31.7.2024	Milne Inlet, Baffin Island	71.8874	-80.9187	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240327(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Stypocaulaceae	Protohalopteris radicans (D	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240118(T1)	Ochrophyta	Phaeophyceae	Sphacelariales	Stypocaulaceae	Protohalopteris radicans (D	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Interesting find. Need to look for brown turf ~1 cm tall.
NGenWSP240102(T1)	Ochrophyta	Phaeophyceae	Stschapoviales	Halosiphonaceae	Halosiphon sp. 2tomentosu	Subtidal (17m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240103(T1)	Ochrophyta	Phaeophyceae	Tilopteridales	Tilopteraceae	Haplospora globosa Kjellm	Subtidal (13m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	
NGenWSP240213(T1)	Ochrophyta	Phaeophyceae	Tilopteridales	Tilopteraceae	Tilopteridalean sp. 2GWS/3	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	LSUD2 does not discriminate among these species. Both in arctic.
NGenWSP240258(T1)	Ochrophyta	Phaeophyceae	Tilopteridales	Tilopteraceae	Tilopteridalean sp. 3GWS	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	Brown ITS (P1, NexITSR1); MiSeq	
NGenWSP240228(T4)	Rhodophyta	Florideophyceae	Corallinales	Lithophyllaceae	Titanoderma pustulatum (J.	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	COII-COIII (cox2F, cox3R); MiSeq	Possible FALSE POSITIVE. We suspect that this is a false positive, but teams should look for coralline crusts on other macroalgae. It has been reported from Svalbard.
NGenWSP240224(T1)	Rhodophyta	Florideophyceae	Acrochaetiales	Acrochaetiaceae	Grania efflorescens (J.Agar	Subtidal (10m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	29.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	COII-COIII (cox2F, cox3R); MiSeq	Matches data for LAB009A, which may be Grania efflorescens. We are working to add this species to the dataset to confirm this result. This species does occur in the Arctic.
NGenWSP240225(T1)	Rhodophyta	Florideophyceae	Acrochaetiales	Acrochaetiaceae	Grania efflorescens (J.Agar	Pinching and scraping throughout intertidal	N. OBrien, P. Hinton, K. Lindsay	04.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	COII-COIII (cox2F, cox3R); MiSeq	Matches data for LAB009A, which may be Grania efflorescens. We are working to add this species to the dataset to confirm this result. This species does occur in the Arctic.
NGenWSP240226(T1)	Rhodophyta	Florideophyceae	Acrochaetiales	Acrochaetiaceae	Grania efflorescens (J.Agar	Subtidal (11.9m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9118	-80.8106	NextGen sequencing	COII-COIII (cox2F, cox3R); MiSeq	Matches data for LAB009A, which may be Grania efflorescens. We are working to add this species to the dataset to confirm this result. This species does occur in the Arctic.
NGenWSP240227(T4)	Rhodophyta	Florideophyceae	Acrochaetiales	Acrochaetiaceae	Grania efflorescens (J.Agar	Subtidal (17m) on Rock	P. Hinton	05.8.2024	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	COII-COIII (cox2F, cox3R); MiSeq	Matches data for LAB009A, which may be Grania efflorescens. We are working to add this species to the dataset to confirm this result. This species does occur in the Arctic.
NGenWSP240232(T1)	Rhodophyta	Florideophyceae	Acrochaetiales	Acrochaetiaceae	Grania efflorescens (J.Agar	Subtidal (12.3m) on Settlement plate	N. OBrien, P. Hinton	01.8.2024	Milne Inlet, Baffin Island	71.8903	-80.8847	NextGen sequencing	COII-COIII (cox2F, cox3R); MiSeq	Matches data for LAB009A, which may be Grania efflorescens. We are working to add this species to the dataset to confirm this result. This species does occur in the Arctic.
NGenWSP240231(T1)	Rhodophyta	Florideophyceae	Ceramiales	Ceramiaceae	Antithamnion cf. sparsum T	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	02.8.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	COII-COIII (cox2F, cox3R); MiSeq	FALSE POSITIVE. We suspect that this is a false positive, but teams should look for fuzzy reds that are not Scagelia. Note, this was recently recognized as an introduced species in Nova Scotia and New Brunswick. So definitely an eye out for it.
NGenWSP240232(T1)	Rhodophyta	Florideophyceae	Ceramiales	Ceramiaceae	Antithamnion cf. sparsum T	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	COII-COIII (cox2F, cox3R); MiSeq	FALSE POSITIVE. We suspect that this is a false positive, but teams should look for fuzzy reds that are not Scagelia. Note, this was recently recognized as an introduced species in Nova Scotia and New Brunswick. So definitely an eye out for it.
NGenWSP240117(T1)	Rhodophyta	Florideophyceae	Ceramiales	Rhodomelaceae	Polysiphonia kapraunii B.St	Subtidal (12.8m) on Settlement plate	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.8899	-80.8868	NextGen sequencing	LSU D2 (MetLSUF1/MetLSUR1); MiSeq	Interesting hit. Need to consider voucher GWS049602. Odd that this was our only red with LSUD2, but unlikely a false positive. Note that LSUD2 has a lower ability to distinguish among species, so this could be a closely related species to Polysiphonia kapraunii.
NGenWSP240230(T1)	Rhodophyta	Florideophyceae	Ceramiales	Rhodomelaceae	Rhodomela virgata Kjellma	Subtidal (10m) on Rock Basket	N. OBrien, P. Hinton, K. Lindsay	27.7.2023	Milne Inlet, Baffin Island	71.8883	-80.9126	NextGen sequencing	COII-COIII (cox2F, cox3R); MiSeq	May be Rhodomela virgata. We are working to add this species to the dataset to confirm this result. This species does occur in the Arctic.
NGenWSP240229(T4)	Rhodophyta	Florideophyceae	Gigartinales	Dumontiaceae	Dilsea socialis (Postels & R	Subtidal (12.8m) on Settlement plate, West Freight dock composite scrape	N. OBrien, P. Hinton, K. Lindsay	06.8.2024	Milne Inlet, Baffin Island	71.9124	-80.8045	NextGen sequencing	COII-COIII (cox2F, cox3R); MiSeq	

APPENDIX 8B-9

2023 DNA Barcoding Results

Baffinland MEEMP DNA barcoding report – 2023

Technical Memorandum

Report Prepared for WSP

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April 7, 2025

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Abbreviations

CCDB – Canadian Centre for DNA Barcoding

BOLD – Barcode of Life Database

CO1 – cytochrome *c* oxidase subunit I

NGS – Next-Generation Sequencing

FASTA – Fast Alignment Search Tool for Amino Acid Sequences

BLAST – Basic Local Alignment Search Tool

NCBI – National Center for Biotechnology Information

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2. BLAST search results for sequenced specimens, showing the top species matches along with query coverage and percent identity.

1.0 Introduction and Objectives

Annual environmental surveys are completed by WSP Canada Inc. in support of the Mary River Mine operated by Baffinland Iron Mines Corporation. Biologica Environmental Services Ltd. (Biologica) supports these efforts through taxonomic identification including traditional methods (morphological examination) as well as DNA barcoding in cases where identifications are uncertain, or there is a particular interest in a group of organisms, such as potential non-indigenous species.

While invasive taxa are an important issue globally (Bax et al, 2003), their detection is hindered by limited knowledge of the composition of many native marine communities as well as limited sequence availability, which is likely exacerbated in the Arctic due to a paucity of primary taxonomic research in the region.

DNA barcoding was used to identify target organisms, which were of interest as indicated by WSP as potential new record, non-indigenous species or other taxonomic uncertainty. DNA barcoding uses the mitochondrial cytochrome c oxidase subunit I (COI) gene, which has been shown to be a powerful tool for delineating species across a wide range of animal phyla (Hebert et al, 2003). However, its effectiveness relies heavily on the availability of comprehensive and geographically representative reference libraries. For many marine invertebrate groups in the Arctic, such databases remain sparse or lacking (Mincks et al, 2010), making confident species-level identifications challenging.

Sequencing was conducted at the Canadian Centre for DNA Barcoding (CCDB), where initial attempts using standard Sanger sequencing yielded limited success. To enhance species recovery, Next-Generation Sequencing (NGS) was employed on a subset of target taxa, generating a dataset that included expected taxa as well as potential contaminants. This report presents an analysis of the sequencing results.

The target taxa in 2023 included: (1) the epifaunal colonial Phyla Bryozoa and Tunicata, that are known to contain species invasive in other parts of the world; and (2) selected polychaete worms (Annelida) that are new records or have other associated taxonomic uncertainty.

2.0 Methods

Both settlement plates/substrates, sediment samples (benthos), and individual target organisms were collected by WSP for possible DNA analysis, and preserved in 95% ethanol in the field. Samples were received at Biologica Environmental Services in September 2023 and stored at approximately -20°C.

Rocks and settlement plates were scanned using a microscope (10-40x) for bryozoans and tunicates, which were then removed and placed into micro centrifuge tubes with 95% ethanol (Item #PO16EA95, Commercial Alcohols, Brampton, ON). Samples were stored in a freezer at -20°C when not being processed. Sediment samples were sorted microscopically and specimens reviewed for the presence of target taxa by our taxonomists.

Individual target organisms were then identified by a specialized taxonomist using morphological characters, they were separated into individual microcentrifuge tubes with 95% ethanol and kept in a freezer at -20°C.

Specimens of interest were then sent to the Canadian Centre of DNA Barcoding (CCDB) for sequencing. Initial sequencing using COI Geller primers (Geller et al, 2013) failed to recover any bryozoan sequences but successfully amplified DNA from the annelid and ascidian specimens. To try to improve bryozoan sequence recovery, Next-Generation Sequencing (NGS) was employed.

FASTA files of the NGS results were then assessed using Basic Local Alignment Search Tool (BLAST) searches through the National Center for Biotechnology Information (NCBI) database to find matches and identify sequences.

3.0 Results and Discussion

DNA barcoding yielded some success from Sanger sequencing the annelids and tunicates, but the bryozoans presented some challenges and were subject to further Next-Generation Sequencing (NGS). The results discussed below highlight the importance of the continuing study Canadian Arctic biodiversity using morphological and DNA-based methods.

The two annelid specimens that were submitted matched 23 sequences from Arctic Canada and Norway that have been identified as an undescribed species of Spionidae in

the genus *Spio* (Table 1) though the phylogenetic tree (Figure 1) indicates that it is more closely related to the genus *Marenzelleria*. The assignment of specimens to incorrect taxa is a common limitation of DNA barcoding for marine invertebrates. While useful for flagging potential novel taxa, it cannot reliably resolve species identity or genus placement without support from morphological taxonomy and reliably identified specimens in the BOLD database. To reliably identify organisms, a strong database built on morphological taxonomic expertise is necessary, which is currently in development with BOLD. Based on the range of the specimens matched, these specimens are likely indigenous to Arctic Canada, belonging to the genus *Marenzellaria*, as identified by taxonomic features prior to submission.

Of the six tunicate specimens submitted, four specimens were successfully sequenced: three *Ascidia callosa* and one *Boltenia echinata* (Table 1). The *A. callosa* matched a single other specimen collected from Alaska (Fig. 2). While this result is consistent with the known range of *Ascidia callosa*, it should be noted that the limited number of reference sequences doesn't provide a high level of confidence in confirming the identification. In contrast, *B. echinata* matched 14 other specimens sequenced across the Canadian Arctic, Alaska, and Norway, showing a broader and better documentation of distribution. However, phylogenetic analysis (Fig. 3) also indicates another distinct genetic cluster from Newfoundland, suggesting that *B. echinata* may represent a species complex.

Next Generation Sequencing (NGS) was used to successfully recover sequences for five of the 26 submitted specimens of Bryozoa, as the initial attempts with Sanger sequencing were unsuccessful (Table 2). In one case, a specimen returned two bryozoan sequences: one was supported by 88 read counts while a second had only 8 reads. The low-read sequence is likely the result of environmental DNA or low-level contamination, rather than originating from the specimen itself. Sequences were compared to publicly available reference data using the BLAST search on the NCBI website to identify the closest matching taxa based on sequence similarity. From those searches we were able to infer bryozoan matches for five of the submitted sequences (Table 2.). However, none of the matches were close enough to allow identification beyond Phylum (average of ~80% shared identity, versus ~>97% required for species identification). This highlights a number of difficulties in sequencing marine invertebrates, especially bryozoans.

The difficulties in extracting sequences could be due to a number of factors, from needing to refine the extraction protocols in order to optimize amplification of marine invertebrates, to possibly needing to develop more effective primers. While some studies have been successful in using universal primers for bryozoans, it has also been found that their use can result in binding to multiple locations within the genome which creates non-specific

products (Porter et al, 2001). In addition, bryozoan biology presents some unique challenges to DNA extraction and amplification as well. The colony surface can retain DNA from other organism such as algae and bacteria which may be preferentially amplified (Porter et al, 2001). Additionally, as colonial organisms they may contain more than one haplotype which can result in chimeric sequences (Lee et al, 2011) these can be difficult to interpret without specialized expertise. Furthermore, bryozoans have been shown to have very high interspecific variation, sometimes as high as or even exceeding 20% divergence (Gomez et al, 2007, Lee et al, 2011) which can make it difficult to interpret results based on DNA barcoding alone. Nonethless, the lack of close matches to the sequences attained is likely due to gaps in the reference library of bryozoan species sequenced to date, especially for Arctic species. Due to a limited reference library and high intraspecific variability a phylogenetic tree was not constructed, as these factors greatly limit the ability to interpret the results. These challenges emphasize the importance of continuing to sequence Arctic marine fauna.

4.0 Major Conclusions

The results show identifications consistent with native Arctic polychaete and tunicate species *Ascidia callosa, Boltenia* echinata, and *Marenzellaria*. Bryozoan results did not yield reliable species identifications. These results underscore the need to expand molecular reference databases for Arctic invertebrates, and highlight the importance of integrating morphological and molecular tools for accurate identification. Expanding reference libraries with verified Arctic sequences, incorporating both morphological and molecular approaches, and increasing sampling efforts will be critical to improving our understanding of Arctic biodiversity and detecting potential shifts in species distributions.

5.0 References

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Porter, J., Skibinski D., Leamon, J., Hayward, P. (2005). Technique for analysis of bryozoan mitochondrial DNA. Molecular Ecology Notes. 1. 103 - 105. 10.1046/j.1471-8278.2000.00018.x.

Table 1. Species identifications of polychaetes and ascidians sequenced using Sanger sequencing, with corresponding Barcode Index Numbers (BINs).

Sample ID	Phylum, Class	Closest Match	BIN
SW-12	Annelida, Polychaeta	*Spio* sp. CMC02*	AAC3261
SW-12	Annelida, Polychaeta	*Spio* sp. CMC02*	AAC3261
Center -DB- Y3- 23- 2	Tunicata, Ascidiacea	*Ascidia callosa*	ADV2153
Center -DB- Y3- 23- 2	Tunicata, Ascidiacea	*Ascidia callosa*	ADV2153
Center -DB- Y3- 23- 2	Tunicata, Ascidiacea	*Ascidia callosa*	ADV2153
Center -DB- Y3- 23- 2	Tunicata, Ascidiacea	*Boltenia echinata*	AAO0714

*Spionid polychaetes were identified as *Marenzellaria* sp. prior to submission. The closest match of *Spio* sp. Is likely a result of a misidentified reference specimen in the CCDB database. These are assumed to be *Marenzellaria* sp. (see Fig. 1).

Table 2: BLAST search results for bryozoan specimens sequenced using Next Generation Sequencing, showing the top species matches along with query coverage and percent identity. For definitive identification, one would expect a minimum >97% match. Identifications with ~80% identity are adequate for Phylum identification only. Species matches reported in this table should be interpreted only as putative related species.

Sample ID	CCDB Sample ID	Read Count	Sequence	Closest Match	Query Cover	% Ident.
Center-DB-Y3-23-2	BARMB021-24_1in10	14	AACACTTTATTTTATATTTGGTTTGTGAGCAGGAATAGTTGGAAGAGGACTAAGAGCTTTAATTCGGGTAGAACTAAGACAA CCTGGGGGTTTAATGGGAAATGATCAATTATATAACGTGATTGTCACCGCACACGCATTTTTAATAATTTTTTTCATAGTGAT ACCTATTATAATTGGCGGATTCGGAAACTGGCTTATCCCATTAATGCTAGGAGTGCCAGATATAGCTTTCCCCCGCTTAA ATAATATAAGATTCTGGTTACTTCCCCCAGCTCTATCTTTGTTATTAATATCATCATTAGTAGAGAGAGGGGCAGGAACTGG TTGAACTGTTTATCCTCCTCTCTCTTCTAATATAGCTCACAGAGGGCCCTCTGTAGACTTAGCTATTTTTTCACTTCATCTAG CTGGGGCATCCTCAATTTTAGGAGCAATTAATTTTATAACTACTACTATAAATATACGTAGAAACCTTATAACCATAATACGT ATCCCTTTATTAGTTTGAGCGGTTTTTATTACAGCTGTACTATTATTACTTTCTCTTCCAGTTTTAGCAGGAGCTATTACTATG CTATTAACAGATCGAAATTTAAACACAGCTTTCTTTGACCCAGCAGGTGGAGGAGACCCTATTTTATACCAACATTTATTT	*Parasmittina nitida*	99%	79.66%
Cent	BARMB	26	AACACTTTATTTTATGTTTGGCCTATGAGCTGGTATAGTCGGGAGAGGCCTAAGAGCCCTCATCCGAGTAGAATTAAGTC AACCTGGAGGCTTAATAGGAAATGACCAACTTTATAATGTAATTGTGACAGCCCATGCTTTCTTAATAATTTTTTTTATAGTTA TACCAATTATAATTGGAGGCTTCGGTAATTGACTCATTCCTTTAATATTAGGAGCACCAGACATAGCTTTTCCACGGTTAAA	*Bugula mig*	99%	80.2

er-DB-Y3-23-2	022-24		TAATATAAGATTTTGGTTATTGCCCCCAGCATTAACCTTATTATTGATATCTTCTTTAGTAGAAAGAGGAGCTGGAACAGGATGGACTGTATACCCTCCACTATCTTCCAATTTAGCACATAGAGGTCCTTCTGTAGATTTAGCTATCTTTTCCCTTCATCTTGCAGGAGCATCTTCAATTCTTGGGGCTATTAATTTTATAACCACTACCATAAATATACGTAGAAATATAATAAGTATAATACGAATCTCCCTATTAGTGTGAGCTGTCTTTATCACAGCTGTCCTATTACTCCTTTCTTTACCTGTACTAGCAGGCGCTATTACTATACTTTTGACAGATCGTAACTTAAACACATCCTTTTTTGACCCTGCAGGGGGTGGAGATCCTATCTTGTACCAACATCTTTTC	*ottoi*		7%
Center-DB-Y3-23-2	BARMB023-24	72	AACACTTTATTTTATGTTTGGCCTATGAGCTGGTATAGTCGGGAGAGGCCTAAGAGCCCTCATCCGAGTAGAATTAAGTCAACCTGGAGGCTTAATAGGAAATGACCAACTTTATAATGTAATTGTGACAGCCCATGCTTTCTTAATAATTTTTTTTATAGTTATACCAATTATAATTGGAGGCTTCGGTAATTGACTCATTCCTTTAATATTAGGAGCACCAGACATAGCTTTTCCACGGTTAAATAATATAAGATTTTGGTTATTGCCCCCAGCATTAACCTTATTATTGATATCTTCTTTAGTAGAAAGAGGAGCTGGAACAGGATGGACTGTATACCCTCCACTATCTTCCAATTTAGCACATAGAGGTCCTTCTGTAGATTTAGCTATCTTTTCCCTTCATCTTGCAGGAGCATCTTCAATTCTTGGGGCTATTAATTTTATAACCACTACCATAAATATACGTAGAAATATAATAAGTATAATACGAATCTCCCTATTAGTGTGAGCTGTCTTTATCACAGCTGTCCTATTACTCCTTTCTTTACCTGTACTAGCAGGCGCTATTACTATACTTTTGACAGATCGTAACTTAAACACATCCTTTTTTGACCCTGCAGGGGGTGGAGATCCTATCTTGTACCAACATCTTTTC	*Bugulamigottoi*	99%	80.27%
Center-DB-Y3-	BARMB024-24	88	AACACTTTATTTTATATTTGGGTTATGGGCAGGAATAGTGGGAAGAGGCCTTAGAGCTTTAATTCGAGTTGAGCTAAGACAACCGGGGGGGTTTAATAGGAAATGACCAACTATATAATGTGATTGTTACTGCACATGCTTTTTTAATAATTTTTTTTATAGTTATACCTATTATAATTGGGGGCTTTGGGAATTGGTTAATTCCTCTTATACTCGGGGCTCCAGACATGGCTTTTCCTCGGTTAAATAATATAAGGTTTTGGTTACTTCCTCCTGCTTTAACTTTATTATTAATATCTTCTTTGGTGGAAAGAGGGGCAGGCACTGGTTGAACAGTTTACCCTCCTTTATCCTCTAATTTAGCTCATAGAGGACCGTCAGTAGACCTCGCTATTTTTTCTCTTCATTTAGCTGGTGCGTCCTCAATTTTAGGCGCTATTAATTTTATAACTACTACTCTTAATATGCGTAGAGGTCGAATATCAATAATGCGCGTACCTCTTTTAGTGTGGGCAGTATTTATTACTGCAGTTCTTTTACTTTTATCTTTACCGGTATTAGCTGGGGCTATTACTATATTATTAACAGACCGAAATTTAAACACATCTTTTTTTGACCCTGCTGGAGGTGGGGACCCCATTTTATATCAACATTTGTTT	*Cabereaellisii*	98%	80.06%

23-2						
Center-DB-Y3-23-2	BARMB024-24	8	AACACTTTATTTTATATTTGGGTTATGGGCAGGAATAGTGGGAAGAGGCCTTAGAGCTTTAATTCGAGTTGAGCTAAGACA ACCGGGGGGGTTTAATAGGAAATGACCAACTATATAATGTGATTGTTACTGCACATGCTTTTTTAATAATTTTTTTTATAGTTATA CCTATTATAATTGGGGGCTTTGGGAATTGGTTAATTCCTCTTATACTCGGGGCTCCAGACATGGCTTTTCCTCGGTTAAAT AATATAAGGTTTTGGTTACTTCCTCCTGCTTTAACTTTATTATTAATATCTTCTTTGGTGGAAAGAGGGGCAGGCACTGGTTG AACAGTTTACCCTCCTTTATCCTCTAATTTAGCTCATAGAGGACCNTCAGTAGACCTGGCTATTTTTTCTCTTCATTTAGCT GGTGCATCCTCAATTTTAGGTGCTATTAATTTTATAACTACTACCCTTAATATACGTAGAGGTGGAATATCAATAATGCGCG TACCTCTTTTAGTGTGGGCAGTATTCATTACTGCAGTTCTTTTACTTTTATCCTTACCGGTATTAGCTGCAGCTATTACTATAT TATTAACAGACCGAAATTTAAATACATCTTTTTTTGACCCTGCTGGAGGTGGGGACCCCATTTTATANCAACATTTGTTT	*Micropora articulata*	100%	79.39%
Center-DB-Y3-23-2	BARMB025-24	13	AACACTTTATTTTATGTTTGGCCTATGAGCTGGTATAGTCGGGAGAGGCCTAAGAGCCCTCATCCGAGTAGAATTAAGTC AACCTGGAGGCTTAATAGGAAATGACCAACTTTATAATGTAATTGTGACAGCCCATGCTTTCTTAATAATTTTTTTTATAGTTA TACCAATTATAATTGGAGGCTTCGGTAATTGACTCATTCCTTTAATATTAGGAGCACCAGACATAGCTTTTCCACGGTTAAA TAATATAAGATTTTGGTTATTGCCCCCAGCATTAACCTTATTATTGATATCTTCTTTAGTAGAAAGAGGAGCTGGAACAGGAT GGACTGTATACCCTCCACTATCTTCCAATTTAGCACATAGAGGTCCTTCTGTAGATTTAGCTATCTTTTCCCTTCATCTTGC AGGAGCATCTTCAATTCTTGGGGCTATTAATTTTATAACCACTACCATAAATATACGTAGAAATATAATAAGTATAATACGAA TCTCCCTATTAGTGTGAGCTGTCTTTATCACAGCTGTCCTATTACTCCTTTCTTTACCTGTACTAGCAGGCGCTATTACTAT ACTTTTGACAGATCGTAACTTAAACACATCCTTTTTTGACCCTGCAGGGGGTGGAGATCCTATCTTGTACCAACATCTTTT C	*Bugula migottoi*	99%	80.27%

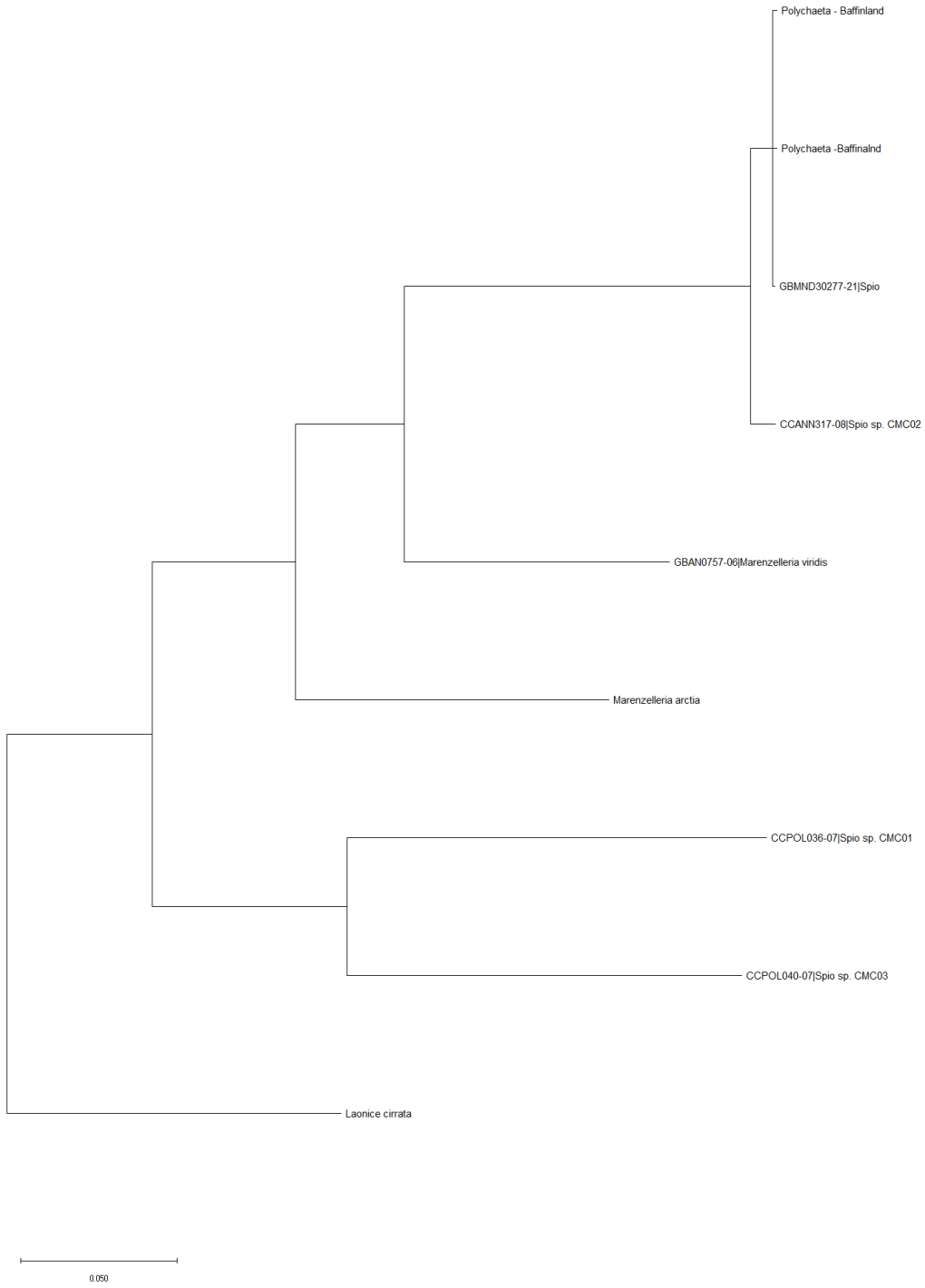


Fig. 1. Maximum likelihood tree of COI sequences from Spionidae (Polychaeta specimens from Baffinland, along with closely matching sequences from BOLD.

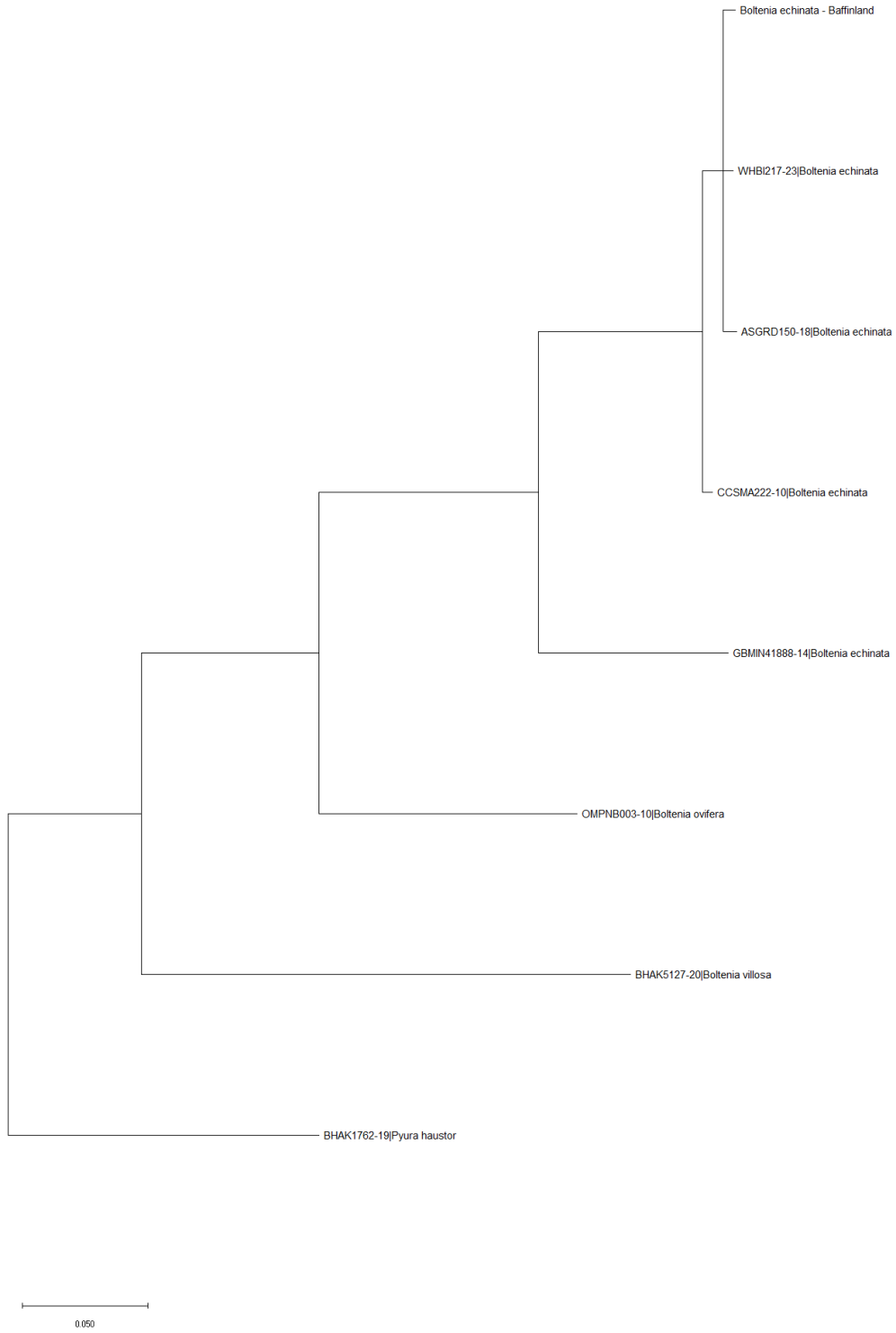


Fig. 2. Maximum likelihood tree of COI from *Boltenia echinata* (Tunicata) collected from Baffinland and closely related species from BOLD

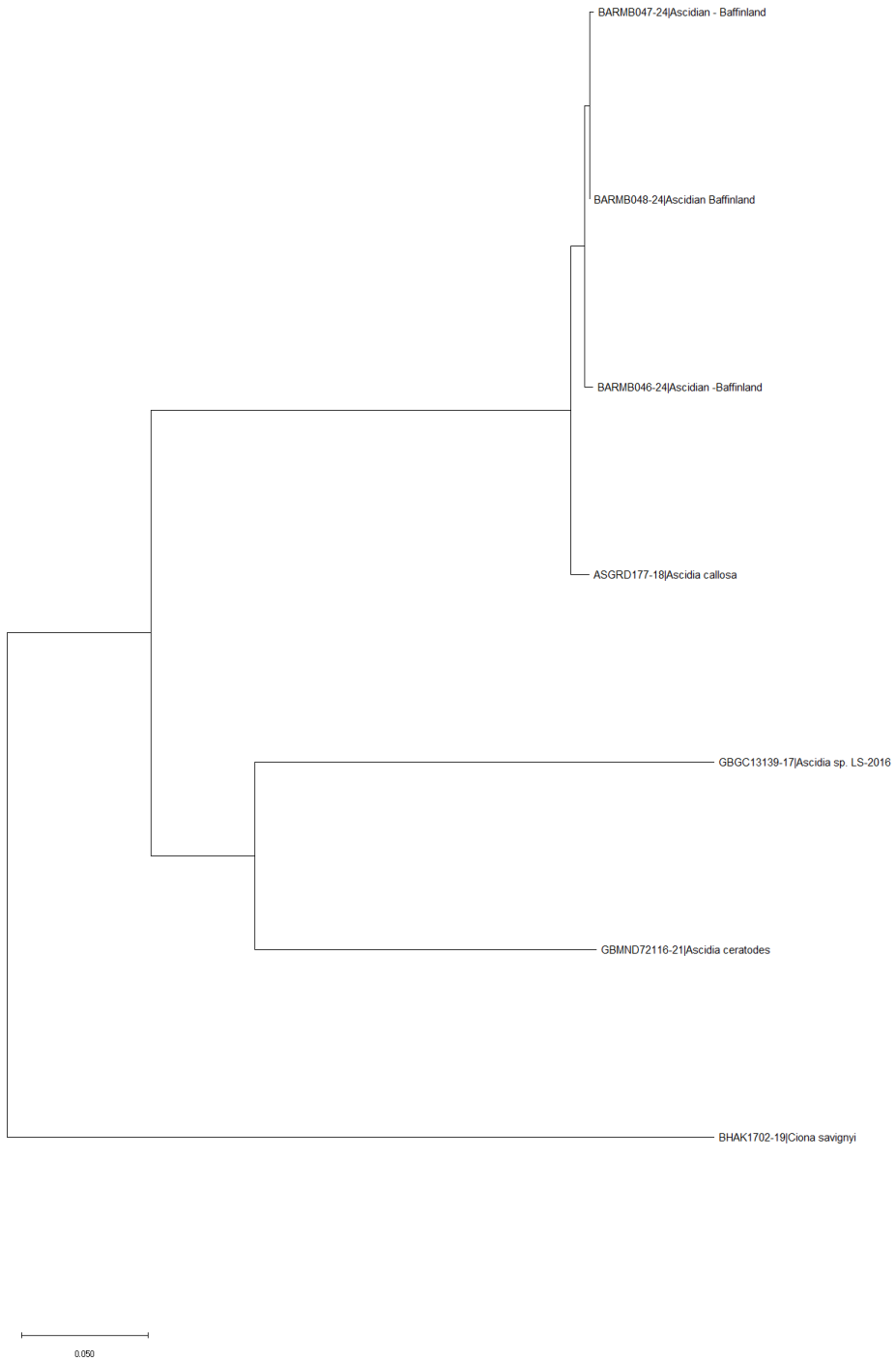


Fig. 3. Maximum likelihood tree of *Ascidia* (Tunicata) specimens from Baffinland with closely related species from BOLD

APPENDIX 8C-1

Taxa Presence/Absence on Settlement Substrates 2021-2024

Phylum Class/Order	Family	Taxa	2021	2022	2023	2024*
Annelida						
Clitellata/-	-	Hirudinea indet.	X		X	X
Clitellata/Enchytraeida	Enchytraeidae	Enchytraeidae indet.		X	X	X
Polychaeta/Eunicida	Lumbrineridae	*Scoletoma fragilis*		X	X	
Polychaeta/Eunicida	Lumbrineridae	*Scoletoma impatiens*		X		
Polychaeta/Eunicida	Lumbrineridae	*Scoletoma* sp.		X	X	X
Polychaeta/Phyllodocida	Hesionidae	Hesionidae indet.	X	X	X	
Polychaeta/Phyllodocida	Hesionidae	*Nereimyra aphroditoides*	X	X		
Polychaeta/Phyllodocida	Hesionidae	*Nereimyra punctata*		X	X	X
Polychaeta/Phyllodocida	Nephtyidae	*Micronephthys cornuta*	X	X		
Polychaeta/Phyllodocida	Nereididae	*Nereis zonata*	X	X	X	X
Polychaeta/Phyllodocida	Nereididae	Nereididae indet.	X		X	X
Polychaeta/Phyllodocida	Sigalionidae	*Pholoe longa*	X	X	X	X
Polychaeta/Phyllodocida	Sigalionidae	*Pholoe minuta*	X	X	X	X
Polychaeta/Phyllodocida	Sigalionidae	*Pholoe* sp.	X	X	X	X
Polychaeta/Phyllodocida	Phyllodocidae	*Eteone longa* complex		X	X	
Polychaeta/Phyllodocida	Phyllodocidae	*Eteone* sp.	X	X		X
Polychaeta/Phyllodocida	Phyllodocidae	*Phyllodoce* sp.	X			
Polychaeta/Phyllodocida	Phyllodocidae	Phyllodocidae indet.	X			
Polychaeta/Phyllodocida	Polynoidae	*Bylgides* sp.		X		
Polychaeta/Phyllodocida	Polynoidae	*Bylgides promamme*				X
Polychaeta/Phyllodocida	Polynoidae	*Gattyana* sp.			X	
Polychaeta/Phyllodocida	Polynoidae	*Gattyana cirrhosa*	X	X		X
Polychaeta/Phyllodocida	Polynoidae	*Harmothoe imbricata*	X			
Polychaeta/Phyllodocida	Polynoidae	*Harmothoe propinqua*				X
Polychaeta/Phyllodocida	Polynoidae	*Harmothoe rarispina*	X			X
Polychaeta/Phyllodocida	Polynoidae	*Harmothoe sp.*	X	X	X	X
Polychaeta/Phyllodocida	Polynoidae	Polynoidae indet.				X
Polychaeta/Phyllodocida	Polynoidae	*Harmothoe sp.*	X	X	X	X
Polychaeta/Phyllodocida	Polynoidae	Polynoidae indet.				X
Polychaeta/Phyllodocida	Polynoidae	Polynoinae indet.	X	X		
Polychaeta/Phyllodocida	Syllidae	*Pionosyllis* sp.	X			
Polychaeta/Phyllodocida	Syllidae	Syllidae indet.	X			
Polychaeta/Sabellida	Sabellidae	*Chone* sp.				X
Polychaeta/Sabellida	Sabellidae	*Dialychone* sp. 3				X
Polychaeta/Sabellida	Sabellidae	*Dialychone* sp.	X	X	X	X
Polychaeta/Sabellida	Sabellidae	*Euchone incolor*	X			X
Polychaeta/Sabellida	Sabellidae	*Euchone* sp.	X	X		X
Polychaeta/Sabellida	Sabellidae	Sabellidae indet.	X	X		X
Polychaeta/Sabellida	Serpulidae	*Bushiella (Jugaria)* sp.		X		
Polychaeta/Sabellida	Serpulidae	*Bushiella (Jugaria) quadrangularis*			X	X
Polychaeta/Sabellida	Serpulidae	*Circeis armoricana*				X
Polychaeta/Sabellida	Serpulidae	*Circeis* sp.	X			
Polychaeta/Sabellida	Serpulidae	Serpulidae indet.	X	X	X	
Polychaeta/Sabellida	Serpulidae	Spirorbinae indet.			X	
Polychaeta/Spionida	Spionidae	*Dipolydora quadrilobata*		X		X
Polychaeta/Spionida	Spionidae	*Marenzelleria* sp.	X			
Polychaeta/Spionida	Spionidae	*Pygospio elegans*				X
Polychaeta/Spionida	Spionidae	*Scolelepis* sp.	X			
Polychaeta/Spionida	Spionidae	Spionidae indet.	X	X		
Polychaeta/Terebellida	Ampharetidae	*Amphicteis sundevalli*	X			
Polychaeta/Terebellida	Ampharetidae	*Ampharete* sp.			X	X
Polychaeta/Terebellida	Ampharetidae	Ampharetidae indet.	X	X	X	
Polychaeta/Terebellida	Cirratulidae	*Chaetozone bathyala*	X	X		X
Polychaeta/Terebellida	Cirratulidae	*Chaetozone pigmentata*			X	X
Polychaeta/Terebellida	Cirratulidae	*Chaetozone setosa* complex				X
Polychaeta/Terebellida	Cirratulidae	*Chaetozone* sp.	X	X	X	X
Polychaeta/Terebellida	Cirratulidae	*Aphelochaeta* sp.		X		
Polychaeta/Terebellida	Cirratulidae	*Tharyx* sp.				X
Polychaeta/Terebellida	Cirratulidae	Cirratulidae indet.		X	X	X
Polychaeta/Terebellida	Pectinariidae	*Cistenides granulata*	X	X	X	X
Polychaeta/Terebellida	Terebellidae	*Amphitrite cirrata*				X
Polychaeta/Terebellida	Terebellidae	*Pista maculata*		X		X
Polychaeta/Terebellida	Terebellidae	*Lanassa venusta venusta*				X
Polychaeta/Terebellida	Terebellidae	*Leaena ebranchiata*			X	X
Polychaeta/Terebellida	Terebellidae	*Polycirrus medusa*				X
Polychaeta/Terebellida	Terebellidae	*Polycirrus* sp. complex		X	X	X
Polychaeta/Terebellida	Terebellidae	Terebellidae indet.	X	X	X	X
Polychaeta/Terebellida	Trichobranchidae	*Terebellides* sp.	X	X	X	X
Polychaeta/Terebellida	Trichobranchidae	*Trichobranchus glacialis*		X		
Polychaeta/Terebellida	Trichobranchidae	*Trichobranchus* sp.			X	
Polychaeta/-	Capitellidae	*Capitella capitata* complex		X		X
Polychaeta/-	Capitellidae	*Mediomastus* sp.	X	X	X	X
Polychaeta/-	Cossuridae	*Cossura longocirrata*	X	X	X	X
Polychaeta/-	Maldanidae	*Maldane sarsi*		X	X	X
Polychaeta/-	Opheliidae	Opheliidae indet.			X	
Polychaeta/-	Orbiniidae	*Scoloplos* sp.		X		
Polychaeta/-	Paraonidae	*Aricidea hartmanae*			X	
Polychaeta/-	Paraonidae	*Aricidea (acmira) catherinae*				X
Polychaeta/-	Paraonidae	*Aricidea nolani*				X
Polychaeta/-	Paraonidae	*Aricidea* sp.		X		X
Polychaeta/-	Paraonidae	Paraonidae indet.		X		
Polychaeta/-	Scalibregmatidae	*Scalibregma inflatum*	X	X		X
Polychaeta/-	Scalibregmatidae	Scalibregmatidae indet.	X			
Polychaeta/-	-	Polychaeta indet.		X		
Polychaeta/-	-	Sedentaria indet.		X		
-/-	-	Annelida indet.		X	X	

Phylum Class/Order	Family	Taxa	2021	2022	2023	2024*
Arthropoda						
Arachnida/-	-	Acari indet.	X			
Arachnida/Trombidiformes	Halacaridae	Halacaridae indet.			X	X
Copepoda/Calanoida	-	Calanoida indet.		X		
Copepoda/Harpacticoida	-	Harpacticoida indet.			X	
Copepoda/-	-	Copepoda indet.			X	
Insecta/Diptera	-	Diptera indet.			X	
Insecta/Ephemeroptera	-	Ephemeroptera indet.			X	
Malacostraca/Amphipoda	Atylidae	*Atylus carinatus*	X			X
Malacostraca/Amphipoda	Atylidae	*Atylus* sp.			X	X
Malacostraca/Amphipoda	Ampeliscidae	*Ampelisca* sp.		X		
Malacostraca/Amphipoda	Ampeliscidae	*Haploops tubicola*		X		
Malacostraca/Amphipoda	Calliopiidae	Calliopiidae indet.	X			
Malacostraca/Amphipoda	Calliopiidae	*Apherusa* sp.	X			
Malacostraca/Amphipoda	Corophiidae	*Crassicorophium* sp.	X		X	
Malacostraca/Amphipoda	Corophiidae	Corophiidae indet.	X			
Malacostraca/Amphipoda	Dexaminidae	*Guernea nordenskioldi*	X	X		
Malacostraca/Amphipoda	Dulichiidae	*Dulichia* sp.				X
Malacostraca/Amphipoda	Eusiridae	*Rhachotropis* sp.				X
Malacostraca/Amphipoda	Gammaridae	*Gammarus oceanicus*	X	X		
Malacostraca/Amphipoda	Gammaridae	*Gammarus setosus*		X		
Malacostraca/Amphipoda	Gammaridae	*Gammarus* sp.	X	X		
Malacostraca/Amphipoda	Ischyroceridae	Ischyroceridae indet.				X
Malacostraca/Amphipoda	Ischyroceridae	*Ischyrocerus anguipes*	X			
Malacostraca/Amphipoda	Oedicerotidae	*Monoculodes* sp.	X	X		
Malacostraca/Amphipoda	Oedicerotidae	Oedicerotidae indet.	X	X		
Malacostraca/Amphipoda	Pontogeneiidae	*Pontoporeia femorata*		X	X	X
Malacostraca/Amphipoda	Stenothoidae	Stenothoidae indet.		X		
Malacostraca/Amphipoda	Tryphosidae	*Orchomene* sp.		X		X
Malacostraca/Amphipoda	-	Lysianassoidea indet.	X			
Malacostraca/Amphipoda	-	Amphipoda indet.		X	X	X
Malacostraca/Cumacea	Diastylidae	*Brachydiastylis resima*		X		
Malacostraca/Cumacea	Lampropidae	*Lamprops* sp.		X		X
Malacostraca/Cumacea	Leuconidae	*Eudorella truncatula*		X		
Malacostraca/Cumacea	Leuconidae	*Leucon nasicoides*		X		
Malacostraca/Cumacea	Leuconidae	*Leucon* sp.		X		
Malacostraca/Decapoda	Thoridae	*Lebbeus polaris*	X			
Ostracoda/Myodocopida	Philomedidae	*Philomedes* sp.	X	X		X
Ostracoda/Podocopida	-	Podocopida indet.			X	
Ostracoda/-	-	Ostracoda indet.		X		
Thecostraca/Balanomorpha	-	Balanomorpha indet.	X	X	X	X
Branchiopoda						
Phyllopoda/Anomopoda	-	Cladocera indet.			X	
Bryozoa						
Gymnolaemata/Cheilostomatida	Calloporidae	Calloporidae indet.		X		X
Gymnolaemata/Cheilostomatida	Epistomiidae	*Synnotum* sp.				X
Gymnolaemata/Cheilostomatida	Eucrateidae	*Eucratea loricata*			X	X
Gymnolaemata/Cheilostomatida	-	Cheilostomatida indet.		X	X	X
Gymnolaemata/Ctenostomatida	-	Ctenostomatida indet.			X	
Gymnolaemata/Ctenostomatida	Alcyonidiidae	*Alcyonidium* sp.		X		X
Stenolaemata/Cyclostomatida	Lichenoporidae	*Lichenopora* sp.	X	X		X
Stenolaemata/Cyclostomatida	Lichenoporidae	Lichenoporidae indet.	X	X		X
Stenolaemata/Cyclostomatida	Tubuliporidae	Tubuliporidae indet.	X			
Stenolaemata/Cyclostomatida	-	Cyclostomatida indet.		X		X
-/-	-	Bryozoa indet.	X	X		X
Cephaloryhncha						
Priapulida/-	-	Priapulida indet.		X		
Chlorophyta						
Chlorophyceae/Chlamydomonadales	Chlorochytriaceae	*Chlorochytrium* sp.		X		
Ulvophyceae/Acrosiphoniales	Acrosiphoniaceae	*Acrosiphonia* sp.		X		
Ulvophyceae/Acrosiphoniales	Acrosiphoniaceae	Acrosiphoniaceae indet.		X		
Ulvophyceae/Acrosiphoniales	Acrosiphoniaceae	cf. *Spongomorpha aeruginosa*		X		
Ulvophyceae/Acrosiphoniales	Acrosiphoniaceae	*Spongomorpha aeruginosa*	X	X		
Ulvophyceae/Cladophorales	Cladophoraceae	cf. *Rhizoclonium* sp.		X		
Ulvophyceae/Cladophorales	Cladophoraceae	*Rhizoclonium* sp.	X			

Phylum Class/Order	Family	Taxa	2021	2022	2023	2024*
Ulvophyceae/Cladophorales	Cladophoraceae	*Chaetomorpha melagonium*		X		
Ulvophyceae/Ulotrichales	Monostromataceae	*Monostroma* sp.		X		
Ulvophyceae/Ulotrichales	Ulotrichaceae	cf. *Ulothrix* sp.		X		
Ulvophyceae/Ulotrichales	Ulotrichaceae	*Ulothrix* sp.	X	X		
Ulvophyceae/Ulotrichales	Ulotrichaceae	cf. *Urospora* sp.		X		
Ulvophyceae/Ulotrichales	Ulotrichaceae	Ulotrichaceae indet.	X			
Ulvophyceae/Ulvales	Kornmanniaceae	cf. *Blidingia marginata / Blidingia* cf. *marginata*		X		
Ulvophyceae/Ulvales	Kornmanniaceae	cf. *Blidingia ramifera*		X		
Ulvophyceae/Ulvales	Kornmanniaceae	*Blidingia* sp.		X		
Ulvophyceae/Ulvales	Ulvaceae	*Ulva* cf. *prolifera*	X			
Ulvophyceae/Ulvales	Ulvellaceae	cf. *Ulvella* sp.		X		
Ulvophyceae/-	-	Ulvophyceae indet.		X		
Chordata						
Ascidiacea/Phelobranchia	Ascidiidae	*Ascidia* sp.			X	X
Ascidiacea/Phelobranchia	-	Phlebobranchia indet.				X
Ascidiacea/Stolidobranchia	Molgulidae	*Molgula* sp.	X			
Ascidiacea/Stolidobranchia	Molgulidae	Molgulidae indet.		X		
Ascidiacea/Stolidobranchia	Pyuridae	*Boltenia echinata*		X	X	X
Ascidiacea/Stolidobranchia	Styelidae	Styelidae indet.			X	
Ascidiacea/Stolidobranchia	-	Stolidobranchia indet.			X	X
Ascidiacea/-	-	Ascidiacea indet.		X	X	X
Ciliophora						
-/-	-	Ciliophora indet.	X			
Cnidaria						
Anthozoa/Actiniaria	-	Actiniaria indet.	X			
Hydrozoa/Anthoathecata	Corynidae	*Sarsia* sp.	X			
Hydrozoa/Anthoathecata	-	Anthoathecata indet.	X			X
Hydrozoa/Leptothecata	Campanulariidae	Campanulariidae indet.	X	X	X	X
Hydrozoa/Leptothecata	-	Leptothecata indet.		X	X	X
Hydrozoa/-	-	Hydrozoa indet.		X	X	
Echinodermata						
Asteroidea/Forcipulatida	Asteriidae	*Leptasterias (Leptasterias) muelleri*	X			
Asteroidea/Forcipulatida	Asteriidae	Asteriidae indet.		X		
Echinoidea/Camarodonta	Strongylocentrotidae	*Strongylocentrotus droebachiensis*	X	X		
Ophiuroidea/Ophiurida	Ophiuridae	*Ophiura robusta*		X		
Ophiuroidea/Ophiurida	Ophiuridae	*Ophiura sarsii*	X			
Ophiuroidea/-	-	Ophiuroidea indet.		X		
Foraminifera						
-/-	-	Foraminifera indet.	X	X	X	X
Mollusca						
Bivalvia/Adapedonta	Hiatellidae	*Hiatella arctica*	X	X	X	X
Bivalvia/Cardiida	Tellinidae	*Macoma calcarea*		X		
Bivalvia/Carditida	Astartidae	*Astarte* sp.	X	X	X	
Bivalvia/Carditida	Astartidae	*Astarte borealis*	X	X	X	X
Bivalvia/Carditida	Astartidae	*Astarte montagui*	X	X	X	X
Bivalvia/Lucinida	Thyasiridae	*Thyasira* sp.		X		
Bivalvia/Lucinida	Thyasiridae	Thyasiridae indet.				X
Bivalvia/Myida	Myidae	*Mya* sp.	X	X	X	X
Bivalvia/Myida	Myidae	*Mya truncata*			X	X
Bivalvia/Mytilida	Mytilidae	*Arvella faba*	X	X	X	X
Bivalvia/Mytilida	Mytilidae	*Musculus discors*	X	X	X	X
Bivalvia/Mytilida	Mytilidae	*Musculus* sp.	X	X	X	X
Bivalvia/Mytilida	Mytilidae	*Musculus glacialis*		X		
Bivalvia/Mytilida	Mytilidae	Mytilidae indet.	X	X	X	X
Bivalvia/Nuculanida	Nuculanidae	*Nuculana minuta*	X	X		
Bivalvia/Nuculida	Nuculidae	*Ennucula tenuis*	X	X		X
Bivalvia/Pectinida	Propeamussiidae	*Similipecten greenlandicus*				X
Bivalvia/Pectinida	-	Pectinoidea indet.			X	X
Bivalvia/-	-	Bivalvia indet.	X	X	X	X
Gastropoda/Littorinimorpha	Naticidae	*Euspira pallida*				X
Gastropoda/Nudibranchia	Dendronotidae	*Dendronotus* sp.	X	X	X	X
Gastropoda/Nudibranchia	Onchidorididae	Onchidorididae indet.			X	
Gastropoda/Trochida	Margaritidae	*Margarites groenlandicus*	X			
Gastropoda/Trochida	Margaritidae	*Margarites helicinus*	X			
Gastropoda/Trochida	Margaritidae	*Margarites* sp.		X		
Gastropoda/-	Lottiidae	Lottiidae indet.	X	X	X	
Gastropoda/-	Lottiidae	*Testudinalia testudinalis*		X	X	X
Gastropoda/-	-	Lottioidea indet.			X	X
Gastropoda/-	-	Patellogastropoda indet.	X			X
Gastropoda/-	-	Gastropoda indet.	X		X	X
Polyplacophora/Chitonida	Tonicellidae	*Tonicella marmorea*			X	X
Nematoda						
-/-	-	Nematoda indet.		X	X	
Nemertea						
Hoplonemertea/-	-	Hoplonemertea indet.				X

Phylum Class/Order	Family	Taxa	2021	2022	2023	2024*
Pilidiophora/Heteronemertea	Lineidae	Lineidae indet.		X	X	X
Pilidiophora/Heteronemertea	-	Heteronemertea indet.			X	
-/-	-	Nemertea indet.		X		X
Ochrophyta						
Phaeophyceae/Chordales	Chordaceae	cf. *Chorda filum*		X		
Phaeophyceae/Desmarestiales	Desmarestiaceae	cf. *Desmarestia* viridis		X		
Phaeophyceae/Ectocarpales	Acinetosporaceae	Acinetosporaceae		X		
Phaeophyceae/Ectocarpales	Acinetosporaceae	cf. *Hincksia* sp.		X		
Phaeophyceae/Ectocarpales	Acinetosporaceae	cf. *Pogotrichum filiforme*		X		
Phaeophyceae/Ectocarpales	Acinetosporaceae	*Pylaiella* sp. / cf. *Pylaiella* sp		X		
Phaeophyceae/Ectocarpales	Acinetosporaceae	cf. *Pylaiella varia / Pylaiella* cf. *varia*	X	X		
Phaeophyceae/Ectocarpales	Acinetosporaceae	*Pylaiella littoralis*		X		
Phaeophyceae/Ectocarpales	Chordariaceae	cf. *Asperococcus fistulosus* / cf. *Scytosiphon lomentaria*		X		
Phaeophyceae/Ectocarpales	Chordariaceae	cf. *Delamarea attenuata*		X		
Phaeophyceae/Ectocarpales	Chordariaceae	cf. *Punctaria latifolia*		X		
Phaeophyceae/Ectocarpales	Chordariaceae	cf. *Punctaria* sp.		X		
Phaeophyceae/Ectocarpales	Chordariaceae	*Stictyosiphon tortilis* / cf. *Stictyosiphon tortilis* / cf. *Stictyosiphon* cf. *tortilis*		X		
Phaeophyceae/Ectocarpales	Chordariaceae	cf. *Stictyosiphon soriferus*		X		
Phaeophyceae/Ectocarpales	Chordariaceae	*Stictyosiphon* sp. / cf. *Stictyosiphon* sp.		X		
Phaeophyceae/Ectocarpales	Chordariaceae	cf. *Trachynema groenlandicum*	X			
Phaeophyceae/Ectocarpales	Chordariaceae	*Dictyosiphon* sp. / cf. *Dictyosiphon sp.*		X		
Phaeophyceae/Ectocarpales	Chordariaceae	Chordariaceae indet.	X	X		
Phaeophyceae/Ectocarpales	-	Ectocarpales indet.		X		
Phaeophyceae/Fucales	Fucaceae	*Fucus distichus* / cf. *Fucus distichus*	X	X		
Phaeophyceae/Sphacelariales	Sphacelariaceae	*Battersia arctica* / cf. *Battersia arctica*		X		
Phaeophyceae/Sphacelariales	-	Sphacelariales indet.	X	X		
Phaeophyceae/Stschapoviales	Platysiphonaceae	*Arcticophycus glacialis* / cf. *Arcticophycus glacialis*		X		
Phaeophyceae/Tilopteridales	Tilopteridaceae	cf. *Haplospora globosa*		X		
Platyhelminthes						
-/-	-	Platyhelminthes indet.				X
Porifera						
Demopongiae/-	-	Demospongiae indet.				X
Rhodophyta						
Compsopogonophyceae/Erythropeltales	Erythrotrichiaceae	cf. *Erythrotrichia* sp.		X		
Florideophyceae/Acrochaetiales	Audouinellaceae	Audouinellaceae indet.		X		
Florideophyceae/Ceramiales	Ceramiaceae	Ceramioideae indet.		X		
Florideophyceae/Ceramiales	Rhodomelaceae	cf. *Polysiphonia* sp.		X		
Florideophyceae/Ceramiales	Rhodomelaceae	*Rhodomela* sp. / cf. *Rhodomela* sp.		X		
Florideophyceae/Ceramiales	Rhodomelaceae	Rhodomelaceae indet.		X		
Florideophyceae/Ceramiales	Rhodomelaceae	*Savoiea arctica*		X		
Florideophyceae/Ceramiales	-	Ceramiales indet.		X		
Florideophyceae/Gigartinales	Phyllophoraceae	cf. *Coccotylus truncatus*		X		
-/-	-	Rhodophyta indet.		X		
Tracheophyta						
-/-	-	Tracheophyta indet.		X		
		# Unique Taxa each year	**69**	**110**	**61**	**73**
		TOTAL # Taxa (COUNT)	**97**	**158**	**81**	**106**

*Macroalgae were removed from settlement substrates and identified along with macroalgae from other components of the program. The results of all macroalgae identifications, including those from settlement substrates are presented in Appendix 8B-1
Notes: taxa identified to the lowest practical taxonomic level; indet.= indeterminate (taxa which could not be identified beyond the taxonomic level listed); sp.=species; cf.=compare with (taxa is an inexact match to the designated taxa). X indicated observed within the indicated sample year
Taxa in bold indicate new observations in MEEMP and NIS/AIS programs
All taxa cross-referenced with NIS/AIS resources: Fofonoff et al. 2023, ISSG 2023, Rius et al. 2023, AquaNIS 2023, Molnar et al. 2008, Casas-Monroy et al. 2014

APPENDIX 8C-2

Settlement Substrate Laboratory Data 2024

biologica

Abundance data in long format for WSP Baffinland MEEMP 2024, Settlement Subtrates including both plates and baskets.

Client	Project	Year	Sample Type	Biologica Sample ID	Client Sample ID	Date Sampled	Organism Type	tax code	grp code	Phylum	Class	Order	Family	Subfamily	Taxon Name	A	Int	J	Unstaged	Unique Taxa Count	Comments	New/historical taxa
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Attached	ALGAE	ALGAE						Algae			P		1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Harmothoe imbricata	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe longa	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Chone sp.	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp. 3	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Polycirrus medusa	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Polycirrus sp. complex			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae		Terebellidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida	Calloporidae		Calloporidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Ctenostomatida	Alcyonidiidae		Alcyonidium sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Mobile	MISC	NTEA	Nemertea					Nemertea indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Attached	MISC	URAS	Chordata	Ascidiacea	Phlebobranchia			Phlebobranchia indet.			P		1		Higher level ID, lower levels within this order found in benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-040	Center-M-P-BL-Y4-	01-Aug-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia				Bivalvia indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P	P	P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereidinae	Nereis zonata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Eteoninae	Eteone sp.		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Harmothoe sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe sp.		P					In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp. 3	P	P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetinae	Ampharete sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Amphitrite cirrata		P			1		In historical benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata		P	P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Polycirrus medusa	P	P			1		In historical benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum	P	P	P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	MEMO	MEMO						Egg/egg mass				P		Squid	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Stenolaemata	Cyclostomatida			Cyclostomatida indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	MISC	NTEA	Nemertea	Hoplonemertea				Hoplonemertea indet.		P			1		In historical benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Attached	MISC	URAS	Chordata	Ascidiacea	Stolidobranchia			Stolidobranchia indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia	Nuculida	Nuculidae		Ennucula tenuis			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia	Pectinida			Pectinoidea indet.			P		1	Damaged shell	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-041	East-M-P-BL-Y4-24	01-Aug-24	Mobile	MOLL	MOGA	Mollusca	Gastropoda	Nudibranchia	Dendronotidae		Dendronotus sp.			P		1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-042	Q1-P-G-Y4-24	31-Jul-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-042	Q1-P-G-Y4-24	31-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nereididae		Nereididae indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-042	Q1-P-G-Y4-24	31-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-042	Q1-P-G-Y4-24	31-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Lanassa venusta venusta			P		1		In historical benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-042	Q1-P-G-Y4-24	31-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-042	Q1-P-G-Y4-24	31-Jul-24	Mobile	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda			Amphipoda indet.		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-042	Q1-P-G-Y4-24	31-Jul-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-042	Q1-P-G-Y4-24	31-Jul-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Ctenostomatida	Alcyonidiidae		Alcyonidium sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-042	Q1-P-G-Y4-24	31-Jul-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-042	Q1-P-G-Y4-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-042	Q1-P-G-Y4-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-042	Q1-P-G-Y4-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-043	Q2-P-G-Y3-24	31-Jul-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-043	Q2-P-G-Y3-24	31-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-043	Q2-P-G-Y3-24	31-Jul-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp. 3		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-043	Q2-P-G-Y3-24	31-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-043	Q2-P-G-Y3-24	31-Jul-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-043	Q2-P-G-Y3-24	31-Jul-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-043	Q2-P-G-Y3-24	31-Jul-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-043	Q2-P-G-Y3-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-043	Q2-P-G-Y3-24	31-Jul-24	Mobile	MOLL	MOGA	Mollusca	Gastropoda	Nudibranchia	Dendronotidae		Dendronotus sp.			P		1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-043	Q2-P-G-Y3-24	31-Jul-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Patellogastropoda indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Polycirrus sp. complex			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae		Terebellidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Capitella capitata complex	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida			Cheilostomatida indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data

biologica

Abundance data in long format for WSP Baffinland MEEMP 2024, Settlement Subtrates including both plates and baskets.

Client	Project	Year	Sample Type	Biologica Sample ID	Client Sample ID	Date Sampled	Organism Type	tax code	grp code	Phylum	Class	Order	Family	Subfamily	Taxon Name	A	Int	J	Unstaged	Unique Taxa Count	Comments	New/historical taxa
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Attached	MISC	URAS	Chordata	Ascidiacea	Phlebobranchia	Ascidiidae		Ascidia sp.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-044	Q3P-G-Y4-24	11-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Lottioidea indet.			P		1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-045	Q4-P-G-Y4-24	11-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-045	Q4-P-G-Y4-24	11-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-045	Q4-P-G-Y4-24	11-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Harmothoe propinqua	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-045	Q4-P-G-Y4-24	11-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-045	Q4-P-G-Y4-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-045	Q4-P-G-Y4-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Capitella capitata complex			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-045	Q4-P-G-Y4-24	11-Aug-24	Mobile	ARTH	CHAR	Arthropoda	Arachnida	Trombidiformes	Halacaridae		Halacaridae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-045	Q4-P-G-Y4-24	11-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-045	Q4-P-G-Y4-24	11-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-045	Q4-P-G-Y4-24	11-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-045	Q4-P-G-Y4-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-045	Q4-P-G-Y4-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus sp.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-045	Q4-P-G-Y4-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-045	Q4-P-G-Y4-24	11-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Patellogastropoda indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe sp.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Amphitrite cirrata		P	P		1		In historical benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Leaena ebranchiata	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae		Terebellidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Mobile	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Atylidae	Atylinae	Atylus carinatus			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Mobile	MEMO	MEMO						Egg/egg mass				P		Squid and other gelatinous egg mass	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Ctenostomatida	Alcyonidiidae		Alcyonidium sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Stenolaemata	Cyclostomatida			Cyclostomatida indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-046	Q5-P-G-Y4-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P		P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Harmothoe propinqua	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Harmothoe sp.	P						In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Sabellida	Serpulidae	Spirorbinae	Circeis armoricana	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Ampharetidae	Ampharetinae	Ampharete sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Leaena ebranchiata	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Mobile	MEMO	MEMO						Egg/egg mass				P		Squid	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida			Cheilostomatida indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Stenolaemata	Cyclostomatida			Cyclostomatida indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-047	Q6-P-G-Y4-24	08-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae		Terebellidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Capitella capitata complex	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Mobile	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Dulichiidae		Dulichia sp.		P			1		In historical benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Mobile	MEMO	MEMO						Egg/egg mass				P		In gelatinous mass	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Ctenostomatida	Alcyonidiidae		Alcyonidium sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Stenolaemata	Cyclostomatida			Cyclostomatida indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Crenellinae	Arvella faba		P	P		1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-048	Q7-P-G-Y4-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Polycirrus medusa	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae		Terebellidae indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Mobile	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Ischyroceridae	Ischyrocerinae	Ischyroceridae indet.		P			1		In historical benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Mobile	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda			Amphipoda indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Mobile	MEMO	MEMO						Egg/egg mass				P		In gelatinous mass	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida	Calloporidae		Calloporidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Ctenostomatida	Alcyonidiidae		Alcyonidium sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Crenellinae	Arvella faba		P	P		1		In historical settlement substrate data

biologica

Abundance data in long format for WSP Baffinland MEEMP 2024, Settlement Subtrates including both plates and baskets.

Client	Project	Year	Sample Type	Biologica Sample ID	Client Sample ID	Date Sampled	Organism Type	tax code	grp code	Phylum	Class	Order	Family	Subfamily	Taxon Name	A	Int	J	Unstaged	Unique Taxa Count	Comments	New/historical taxa
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors		P	P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-049	Q8-P-G-Y4-24	29-Jul-24	Attached	MOLL	MOGA	Mollusca	Gastropoda		Lottiidae		Testudinalia testudinalis		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-050	Q9-P-G-Y4-24	29-Jul-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-050	Q9-P-G-Y4-24	29-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P	P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-050	Q9-P-G-Y4-24	29-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-050	Q9-P-G-Y4-24	29-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-050	Q9-P-G-Y4-24	29-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae		Terebellidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-050	Q9-P-G-Y4-24	29-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-050	Q9-P-G-Y4-24	29-Jul-24	Mobile	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Atylidae	Atylinae	Atylus sp.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-050	Q9-P-G-Y4-24	29-Jul-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-050	Q9-P-G-Y4-24	29-Jul-24	Mobile	MEMO	MEMO						Egg/egg mass				P		In gelatinous mass	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-050	Q9-P-G-Y4-24	29-Jul-24	Mobile	MEMO	MEMO						Polynoidae indet.				P			In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-050	Q9-P-G-Y4-24	29-Jul-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Anthoathecata			Anthoathecata indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-050	Q9-P-G-Y4-24	29-Jul-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-050	Q9-P-G-Y4-24	29-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-050	Q9-P-G-Y4-24	29-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-051	Q10-P-G-Y4-24	06-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-051	Q10-P-G-Y4-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P	P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-051	Q10-P-G-Y4-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae		Terebellidae indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-051	Q10-P-G-Y4-24	06-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-051	Q10-P-G-Y4-24	06-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Anthoathecata			Anthoathecata indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-051	Q10-P-G-Y4-24	06-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata			Leptothecata indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-051	Q10-P-G-Y4-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-051	Q10-P-G-Y4-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus sp.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-052	Q11-P-G-Y3-24	31-Jul-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-052	Q11-P-G-Y3-24	31-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta		P	P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-052	Q11-P-G-Y3-24	31-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe sp.	P						In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-052	Q11-P-G-Y3-24	31-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-052	Q11-P-G-Y3-24	31-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-052	Q11-P-G-Y3-24	31-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-052	Q11-P-G-Y3-24	31-Jul-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-052	Q11-P-G-Y3-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-052	Q11-P-G-Y3-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-053	Q12-P-G-Y3-24	31-Jul-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-053	Q12-P-G-Y3-24	31-Jul-24	Mobile	ANNE	ANOL	Annelida	Clitellata	Enchytraeida	Enchytraeidae		Enchytraeidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-053	Q12-P-G-Y3-24	31-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-053	Q12-P-G-Y3-24	31-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-053	Q12-P-G-Y3-24	31-Jul-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-053	Q12-P-G-Y3-24	31-Jul-24	Mobile	MEMO	MEMO						Egg/egg mass				P		In gelatinous mass	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-053	Q12-P-G-Y3-24	31-Jul-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-053	Q12-P-G-Y3-24	31-Jul-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-053	Q12-P-G-Y3-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-053	Q12-P-G-Y3-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-053	Q12-P-G-Y3-24	31-Jul-24	Mobile	MOLL	MOGA	Mollusca	Gastropoda	Nudibranchia	Dendronotidae		Dendronotus sp.			P		1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-054	Q13-P-G-Y4-24	11-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-054	Q13-P-G-Y4-24	11-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-055	Q14-P-G-Y3-24	11-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-055	Q14-P-G-Y3-24	11-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-055	Q14-P-G-Y3-24	11-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-055	Q14-P-G-Y3-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-056	Q15-P-G-Y3-24	06-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-056	Q15-P-G-Y3-24	06-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-057	Q17-P-G-Y3-24	06-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-057	Q17-P-G-Y3-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-057	Q17-P-G-Y3-24	06-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae		Sabellidae indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-057	Q17-P-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Dipolydora quadrilobata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-057	Q17-P-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-057	Q17-P-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae		Terebellidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-057	Q17-P-G-Y3-24	06-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-057	Q17-P-G-Y3-24	06-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-057	Q17-P-G-Y3-24	06-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-057	Q17-P-G-Y3-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-057	Q17-P-G-Y3-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus sp.			P		1	Damaged shell	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Plate	mb24-033-057	Q17-P-G-Y3-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Serpulidae	Spirorbinae	Bushiella (Jugaria) quadrangularis	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Spionida	Spionidae		Pygospio elegans			P		1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Leaena ebranchiata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae		Terebellidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Ctenostomatida	Alcyonidiidae		Alcyonidium sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Attached	MISC	PORI	Porifera	Demospongiae				Demospongiae indet.	P				1	Small colony, not much tissue left	In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Attached	MISC	URAS	Chordata	Ascidiacea	Phlebobranchia	Ascidiidae		Ascidia sp.		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Attached	MISC	URAS	Chordata	Ascidiacea				Ascidiacea indet.			P			<1mm, too small to disect, possibly Molgulidae based on tunic	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya sp.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Attached	MOLL	MOBi	Mollusca	Bivalvia	Mytilida	Mytilidae	Crenellinae	Arvella faba	P				1		In historical settlement substrate and benthic data

biologica

Abundance data in long format for WSP Baffinland MEEMP 2024, Settlement Subtrates including both plates and baskets.

Client	Project	Year	Sample Type	Biologica Sample ID	Client Sample ID	Date Sampled	Organism Type	tax code	grp code	Phylum	Class	Order	Family	Subfamily	Taxon Name	A	Int	J	Unstaged	Unique Taxa Count	Comments	New/historical taxa
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors		P	P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Mobile	MOLL	MOGA	Mollusca	Gastropoda	Nudibranchia	Dendronotidae		Dendronotus sp.			P		1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda		Lottiidae		Testudinalia testudinalis		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Lottioidea indet.			P				In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-058	Center-M-B-BL-Y4-	01-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Patellogastropoda indet.			P			Shelless	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereidinae	Nereis zonata	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Bylgides promamme	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Harmothoe rarispina		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae		Polynoidae indet.			P				In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Serpulidae	Spirorbinae	Bushiella (Jugaria) quadrangularis	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Serpulidae	Spirorbinae	Circeis armoricana	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Leaena ebranchiata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Pista maculata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae		Terebellidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Cossuridae		Cossura longocirrata	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Mobile	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda			Amphipoda indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida	Calloporidae		Calloporidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida			Cheilostomatida indet.	P						In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Stenolaemata	Cyclostomatida			Cyclostomatida indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Mobile	MISC	NTEA	Nemertea	Pilidiophora	Heteronemertea	Lineidae		Lineidae indet.		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Attached	MISC	URAS	Chordata	Ascidiacea	Phlebobranchia	Ascidiidae		Ascidia sp.	P	P	P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Attached	MISC	URAS	Chordata	Ascidiacea	Stolidobranchia	Pyuridae		Boltenia echinata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Attached	MISC	URAS	Chordata	Ascidiacea	Stolidobranchia			Stolidobranchia indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Mobile	MOLL	MOGA	Mollusca	Gastropoda	Nudibranchia	Dendronotidae		Dendronotus sp.		P			1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Patellogastropoda indet.			P		1	Damaged shell	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-059	East-M-B-BL-Y4-24	01-Aug-24	Attached	MOLL	MOPO	Mollusca	Polyplacophora	Chitonida	Tonicellidae	Tonicellinae	Tonicella marmorea		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-060	Q1-B-G-Y4-24	31-Jul-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-060	Q1-B-G-Y4-24	31-Jul-24	Mobile	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda			Amphipoda indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-060	Q1-B-G-Y4-24	31-Jul-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-060	Q1-B-G-Y4-24	31-Jul-24	Mobile	MEMO	MEMO						Egg/egg mass				P		Gastropoda egss cases	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-060	Q1-B-G-Y4-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-060	Q1-B-G-Y4-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-060	Q1-B-G-Y4-24	31-Jul-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia				Bivalvia indet.			P			Damaged shell	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-061	Q2-B-G-Y2-24	31-Jul-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-061	Q2-B-G-Y2-24	31-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereidinae	Nereis zonata	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-061	Q2-B-G-Y2-24	31-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Leaena ebranchiata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-061	Q2-B-G-Y2-24	31-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae		Terebellidae indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-061	Q2-B-G-Y2-24	31-Jul-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-061	Q2-B-G-Y2-24	31-Jul-24	Mobile	MEMO	MEMO						Egg/egg mass				P		Squid	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-061	Q2-B-G-Y2-24	31-Jul-24	Attached	MISC	URAS	Chordata	Ascidiacea	Phlebobranchia	Ascidiidae		Ascidia sp.		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-061	Q2-B-G-Y2-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P	P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Bylgides promamme	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Serpulidae	Spirorbinae	Bushiella (Jugaria) quadrangularis	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Amphitrite cirrata		P			1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Mobile	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Tryphosidae		Orchomene sp.		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Attached	MISC	URAS	Chordata	Ascidiacea	Phlebobranchia	Ascidiidae		Ascidia sp.		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Attached	MISC	URAS	Chordata	Ascidiacea				Ascidiacea indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors		P			1	Damaged shell	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus sp.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-062	Q3-B-G-Y3-24	11-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Lottioidea indet.		P			1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Gattyana cirrhosa	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Serpulidae	Spirorbinae	Bushiella (Jugaria) quadrangularis	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone bathyala	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone sp.	P						In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Cirratulidae indet.	P						In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Polycirrus sp. complex	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae		Terebellidae indet.	P						In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Capitella capitata complex	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Mobile	ARTH	CROS	Arthropoda	Ostracoda	Myodocopida	Philomedidae		Philomedes sp.		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida			Cheilostomatida indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Mobile	MISC	NTEA	Nemertea	Pilidiophora	Heteronemertea	Lineidae		Lineidae indet.	P				1		In historical settlement substrate and benthic data

biologica

Abundance data in long format for WSP Baffinland MEEMP 2024, Settlement Subtrates including both plates and baskets.

Client	Project	Year	Sample Type	Biologica Sample ID	Client Sample ID	Date Sampled	Organism Type	tax code	grp code	Phylum	Class	Order	Family	Subfamily	Taxon Name	A	Int	J	Unstaged	Unique Taxa Count	Comments	New/historical taxa
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors	P	P	P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia				Bivalvia indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Mobile	MOLL	MOGA	Mollusca	Gastropoda				Gastropoda indet.			P			Damaged shell	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-063	Q4-B-G-Y3-24	11-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Lottioidea indet.			P		1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Eunicida	Lumbrineridae		Scoletoma sp.		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereidinae	Nereis zonata	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nereididae		Nereididae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Harmothoe propinqua	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Serpulidae	Spirorbinae	Bushiella (Jugaria) quadrangularis	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Serpulidae	Spirorbinae	Circeis armoricana	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone bathyala	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone setosa complex	P	P			1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Cirratulidae indet.	P		P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Tharyx sp.	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Pectinariidae		Cistenides granulata	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Lanassa venusta venusta		P			1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Trichobranchidae		Terebellides sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Cossuridae		Cossura longocirrata	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Maldanidae	Maldaninae	Maldane sarsi	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea (Acmira) catherinae	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ARTH	CRCU	Arthropoda	Malacostraca	Cumacea	Diastylidae		Brachydiastylis resima			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	ARTH	CROS	Arthropoda	Ostracoda	Myodocopida	Philomedidae		Philomedes sp.	P		P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	MEMO	MEMO						Egg/egg mass				P		Squid	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Anthoathecata			Anthoathecata indet.	P				1	Attached to polychaete tubes	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia	Lucinida	Thyasiridae		Thyasiridae indet.	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-064	Q5-B-G-Y3-24	06-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Lottioidea indet.		P			1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P	P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Gattyana cirrhosa	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Harmothoe rarispina	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Serpulidae	Spirorbinae	Bushiella (Jugaria) quadrangularis	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Serpulidae	Spirorbinae	Circeis armoricana	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone pigmentata	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Polycirrus sp. complex			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Cossuridae		Cossura longocirrata	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Maldanidae	Maldaninae	Maldane sarsi	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea sp.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Scalibregmatidae		Scalibregma inflatum			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida			Cheilostomatida indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Stenolaemata	Cyclostomatida			Cyclostomatida indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Attached	MISC	URAS	Chordata	Ascidiacea	Phlebobranchia	Ascidiidae		Ascidia sp.	P		P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Attached	MISC	URAS	Chordata	Ascidiacea	Phlebobranchia			Phlebobranchia indet.			P		1		Higher level ID, lower levels within this order found in benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Attached	MISC	URAS	Chordata	Ascidiacea	Stolidobranchia	Pyuridae		Boltenia echinata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Attached	MISC	URAS	Chordata	Ascidiacea				Ascidiacea indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya truncata	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia	Pectinida	Propeamussiidae		Similipecten greenlandicus		P			1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia				Bivalvia indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-065	Q6-B-G-Y3-24	08-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda	Littorinimorpha	Naticidae	Polinicinae	Euspira pallida		P			1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Harmothoe propinqua	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe longa	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Pectinariidae		Cistenides granulata	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Polycirrus medusa	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Polycirrus sp. complex			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Trichobranchidae		Terebellides sp.	P	P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Mobile	MEMO	MEMO						Egg/egg mass				P		In gelatinous mass	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida	Eucrateidae		Eucratea loricata	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Stenolaemata	Cyclostomatida			Cyclostomatida indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte borealis		P			1		In historical settlement substrate and benthic data

biologica

Abundance data in long format for WSP Baffinland MEEMP 2024, Settlement Subtrates including both plates and baskets.

Client	Project	Year	Sample Type	Biologica Sample ID	Client Sample ID	Date Sampled	Organism Type	tax code	grp code	Phylum	Class	Order	Family	Subfamily	Taxon Name	A	Int	J	Unstaged	Unique Taxa Count	Comments	New/historical taxa
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia	Carditida	Astartidae		Astarte montagui			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors	P	P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus sp.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Lottioidea indet.			P		1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-066	Q7-B-G-Y3-24	06-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Patellogastropoda indet.			P			Damaged shell	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe longa	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Serpulidae	Spirorbinae	Bushiella (Jugaria) quadrangularis	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Serpulidae	Spirorbinae	Circeis armoricana	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Mobile	MEMO	MEMO						Egg/egg mass				P			In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida	Calloporidae		Calloporidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida			Cheilostomatida indet.	P						In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Encrusting	MISC	BRYO	Bryozoa	Stenolaemata	Cyclostomatida	Lichenoporidae		Lichenopora sp.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Encrusting	MISC	BRYO	Bryozoa	Stenolaemata	Cyclostomatida	Lichenoporidae		Lichenoporidae indet.	P						In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Mobile	MISC	NTEA	Nemertea	Pilidiophora	Heteronemertea	Lineidae		Lineidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Mobile	MISC	NTEA	Nemertea					Nemertea indet.	P						In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Attached	MISC	URAS	Chordata	Ascidiacea	Phlebobranchia	Ascidiidae		Ascidia sp.		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors			P		1	Damaged shell	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus sp.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Mobile	MOLL	MOGA	Mollusca	Gastropoda	Nudibranchia	Dendronotidae		Dendronotus sp.			P		1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Attached	MOLL	MOGA	Mollusca	Gastropoda		Lottiidae		Testudinalia testudinalis			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-067	Q8-B-G-Y3-24	29-Jul-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Lottioidea indet.			P				In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-068	Q9-B-G-Y3-24	29-Jul-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-068	Q9-B-G-Y3-24	29-Jul-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-068	Q9-B-G-Y3-24	29-Jul-24	Encrusting	MISC	BRYO	Bryozoa					Bryozoa indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-068	Q9-B-G-Y3-24	29-Jul-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-068	Q9-B-G-Y3-24	29-Jul-24	Attached	MISC	PORI	Porifera	Demospongiae				Demospongiae indet.	P				1	Very little tissue present	In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-068	Q9-B-G-Y3-24	29-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-068	Q9-B-G-Y3-24	29-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors		P	P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-068	Q9-B-G-Y3-24	29-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P	P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp. 3		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Serpulidae	Spirorbinae	Circeis armoricana	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone sp.		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellinae	Amphitrite cirrata			P		1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae		Terebellidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Mobile	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Eusiridae		Rhachotropis sp.		P	P		1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida	Epistomiidae		Synnotum sp.	P				1		In hystorical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Crenellinae	Arvella faba	P	P			1	Crenella faba in historical taxa	In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors	P	P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P			Damaged shell	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-069	Q10-B-G-Y3-24	06-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Lottioidea indet.		P	P		1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-070	Q11-B-G-Y2-24	31-Jul-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-070	Q11-B-G-Y2-24	31-Jul-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Terebellidae		Terebellidae indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-070	Q11-B-G-Y2-24	31-Jul-24	Mobile	ARTH	CHAR	Arthropoda	Arachnida	Trombidiformes	Halacaridae		Halacaridae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-070	Q11-B-G-Y2-24	31-Jul-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-070	Q11-B-G-Y2-24	31-Jul-24	Mobile	MEMO	MEMO						Egg/egg mass				P			In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-070	Q11-B-G-Y2-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-070	Q11-B-G-Y2-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors	P	P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-070	Q11-B-G-Y2-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.		P	P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-070	Q11-B-G-Y2-24	31-Jul-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Lottioidea indet.			P		1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-071	Q12-B-G-Y2-24	31-Jul-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-071	Q12-B-G-Y2-24	31-Jul-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereidinae	Nereis zonata	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-071	Q12-B-G-Y2-24	31-Jul-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Dialychone sp. 3	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-071	Q12-B-G-Y2-24	31-Jul-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae		Sabellidae indet.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-071	Q12-B-G-Y2-24	31-Jul-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P		P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-071	Q12-B-G-Y2-24	31-Jul-24	Encrusting	MISC	BRYO	Bryozoa	Stenolaemata	Cyclostomatida			Cyclostomatida indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-071	Q12-B-G-Y2-24	31-Jul-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-071	Q12-B-G-Y2-24	31-Jul-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-072	Q13-B-G-Y2-24	11-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-072	Q13-B-G-Y2-24	11-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-072	Q13-B-G-Y2-24	11-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-072	Q13-B-G-Y2-24	11-Aug-24	Mobile	MEMO	MEMO						Egg/egg mass				P			In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-072	Q13-B-G-Y2-24	11-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-072	Q13-B-G-Y2-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-072	Q13-B-G-Y2-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors	P	P	P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-072	Q13-B-G-Y2-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus sp.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-072	Q13-B-G-Y2-24	11-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Lottioidea indet.			P		1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-072	Q13-B-G-Y2-24	11-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Patellogastropoda indet.			P				In historical settlement substrate and benthic data

biologica

Abundance data in long format for WSP Baffinland MEEMP 2024, Settlement Subtrates including both plates and baskets.

Client	Project	Year	Sample Type	Biologica Sample ID	Client Sample ID	Date Sampled	Organism Type	tax code	grp code	Phylum	Class	Order	Family	Subfamily	Taxon Name	A	Int	J	Unstaged	Unique Taxa Count	Comments	New/historical taxa
WSP	Baffinland MEEMP	2024	Basket	mb24-033-073	Q14-B-G-Y2-24	11-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-073	Q14-B-G-Y2-24	11-Aug-24	Mobile	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Atylidae	Atylinae	Atylus carinatus	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-073	Q14-B-G-Y2-24	11-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-073	Q14-B-G-Y2-24	11-Aug-24	Mobile	MEMO	MEMO						Egg/egg mass			P			In gelatinous mass	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-073	Q14-B-G-Y2-24	11-Aug-24	Attached	MISC	CNHY	Cnidaria	Hydrozoa	Leptothecata	Campanulariidae		Campanulariidae indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-073	Q14-B-G-Y2-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-073	Q14-B-G-Y2-24	11-Aug-24	Mobile	MOLL	MOBI	Mollusca	Bivalvia	Myida	Myidae		Mya sp.			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-073	Q14-B-G-Y2-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Crenellinae	Arvella faba		P			1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-073	Q14-B-G-Y2-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-073	Q14-B-G-Y2-24	11-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-073	Q14-B-G-Y2-24	11-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Lottioidea indet.			P		1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Polynoidae	Polynoinae	Harmothoe propinqua	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe longa	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Euchone incolor		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Attached	ANNE	POSE	Annelida	Polychaeta	Sabellida	Sabellidae	Myxicolinae	Euchone sp.		P					In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Chaetozone sp.		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta	Terebellida	Cirratulidae		Cirratulidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Paraonidae		Aricidea nolani	P				1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Mobile	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Pontogeneiidae		Pontoporeia femorata			P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Mobile	MISC	PLTY	Platyhelminthes					Platyhelminthes indet.			P		1		In historical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-074	Q15-B-G-Y2-24	06-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda		Lottiidae		Testudinalia testudinalis	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Attached	ALGAE	ALGAE						Algae				P	1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Mobile	ANNE	ANHI	Annelida	Clitellata				Hirudinea indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Hesionidae		Nereimyra aphroditoides	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Mobile	ANNE	POER	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Pholoinae	Pholoe minuta	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Mobile	ANNE	POSE	Annelida	Polychaeta		Capitellidae		Mediomastus sp.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Mobile	ARTH	CRAM	Arthropoda	Malacostraca	Amphipoda	Pontogeneiidae		Pontoporeia femorata		P			1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Encrusting	ARTH	CRCI	Arthropoda	Thecostraca	Balanomorpha			Balanomorpha indet.	P				1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Mobile	MEMO	MEMO						Egg/egg mass	P						In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Encrusting	MISC	BRYO	Bryozoa	Gymnolaemata	Cheilostomatida	Epistomiidae		Synnotum sp.	P				1		In hystorical benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Attached	MISC	FORA	Foraminifera					Foraminifera indet.	P				1		In historical settlement substrate data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Adapedonta	Hiatellidae		Hiatella arctica	P		P		1		In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae	Musculinae	Musculus discors	P	P			1	Damaged shell	In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Musculus sp.		P					In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Attached	MOLL	MOBI	Mollusca	Bivalvia	Mytilida	Mytilidae		Mytilidae indet.			P				In historical settlement substrate and benthic data
WSP	Baffinland MEEMP	2024	Basket	mb24-033-075	Q17-B-G-Y2-24	06-Aug-24	Attached	MOLL	MOGA	Mollusca	Gastropoda				Lottioidea indet.	P				1		In historical settlement substrate data

APPENDIX 8C-3

Settlement Substrate Laboratory Methods

Marine Benthic Enumeration and Identification Methods
Client: WSP
Project: Baffinland MEEMP, 2024
Settlement Substrate (Plates and Baskets)

Sample Inventory

Sample arrival: 230- Aug-24
Number of samples: 36
Number of jars: 36
Screen size: 500 µm
Biologica project number: mb24-033

The chain of custody documents were checked and approved with the client. Samples were assigned a unique identification number. For processing, samples were analyzed in water and then transferred back into 10% formalin for storage.

Table 1. Summary of settlement substrate samples including both plates and baskets processed for WSP Baffinland MEEMP, 2024.

Substrate	Client Sample ID	Date Sampled	Biologica Sample ID
Plate	Center-M-P-BL-Y4-24	1-Aug-24	mb24-033-040
Plate	East-M-P-BL-Y4-24	1-Aug-24	mb24-033-041
Plate	Q1-P-G-Y4-24	31-Jul-24	mb24-033-042
Plate	Q2-P-G-Y3-24	31-Jul-24	mb24-033-043
Plate	Q3P-G-Y4-24	11-Aug-24	mb24-033-044
Plate	Q4-P-G-Y4-24	11-Aug-24	mb24-033-045
Plate	Q5-P-G-Y4-24	6-Aug-24	mb24-033-046
Plate	Q6-P-G-Y4-24	8-Aug-24	mb24-033-047
Plate	Q7-P-G-Y4-24	6-Aug-24	mb24-033-048
Plate	Q8-P-G-Y4-24	29-Jul-24	mb24-033-049
Plate	Q9-P-G-Y4-24	29-Jul-24	mb24-033-050
Plate	Q10-P-G-Y4-24	6-Aug-24	mb24-033-051
Plate	Q11-P-G-Y3-24	31-Jul-24	mb24-033-052
Plate	Q12-P-G-Y3-24	31-Jul-24	mb24-033-053
Plate	Q13-P-G-Y4-24	11-Aug-24	mb24-033-054
Plate	Q14-P-G-Y3-24	11-Aug-24	mb24-033-055
Plate	Q15-P-G-Y3-24	6-Aug-24	mb24-033-056
Plate	Q17-P-G-Y3-24	6-Aug-24	mb24-033-057
Basket	Center-M-B-BL-Y4-24	1-Aug-24	mb24-033-058
Basket	East-M-B-BL-Y4-24	1-Aug-24	mb24-033-059
Basket	Q1-B-G-Y4-24	31-Jul-24	mb24-033-060
Basket	Q2-B-G-Y2-24	31-Jul-24	mb24-033-061
Basket	Q3-B-G-Y3-24	11-Aug-24	mb24-033-062

Substrate	Client Sample ID	Date Sampled	Biologica Sample ID
Basket	Q4-B-G-Y3-24	11-Aug-24	mb24-033-063
Basket	Q5-B-G-Y3-24	6-Aug-24	mb24-033-064
Basket	Q6-B-G-Y3-24	8-Aug-24	mb24-033-065
Basket	Q7-B-G-Y3-24	6-Aug-24	mb24-033-066
Basket	Q8-B-G-Y3-24	29-Jul-24	mb24-033-067
Basket	Q9-B-G-Y3-24	29-Jul-24	mb24-033-068
Basket	Q10-B-G-Y3-24	6-Aug-24	mb24-033-069
Basket	Q11-B-G-Y2-24	31-Jul-24	mb24-033-070
Basket	Q12-B-G-Y2-24	31-Jul-24	mb24-033-071
Basket	Q13-B-G-Y2-24	11-Aug-24	mb24-033-072
Basket	Q14-B-G-Y2-24	11-Aug-24	mb24-033-073
Basket	Q15-B-G-Y2-24	6-Aug-24	mb24-033-074
Basket	Q17-B-G-Y2-24	6-Aug-24	mb24-033-075

Sample Processing

The top and bottom surface of each sample was scanned to identify epifaunal taxa, including invertebrates and macroalgae. All organisms were identified using a combination of dissecting (10–40x) and compound (100–1000x) microscopes and standard taxonomic keys (see methodological and taxonomic references) to the level specified by the client: species or LPL (lowest practicable level). Each taxon was assigned an organism type (attached, encrusting, or mobile) and each taxon was given a stage, if applicable.

Organism types are defined as:

- Encrusting – Colonial and/or functionally colonial organisms that are permanently attached to substrate, whose abundances are more accurately captured by percent cover.
- Attached – Single individuals permanently attached to substrate but whose abundances are more easily captured by enumeration.
- Mobile – Organisms that are capable of movement from a single location.

Data

Results were provided to the WSP project manager in Excel spreadsheets via email.

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APPENDIX 8D-1

Zooplankton Taxa Presence/Absence from Survey Years 2010-2024

Appendix 8D-1
Zooplankton Taxa Presence/Absence from Baseline Survey Years to 2024

Phylum Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	Baseline	2016	2017	2018	2019	2020	2022	2023	2024
Annelida															
-	Polychaeta	-	-	-	-	Polychaeta indet.*	x	x	x	x	x	x	x	x	x
-	Polychaeta	Sedentaria	-	Sabellariidae	-	Sabellariidae indet.			x						
-	Polychaeta	Sedentaria	Sabellida	Oweniidae	-	Oweniidae indet.*								x	x
Arthropoda															
-	-	-	-	-	-	Arthropoda indet.*						x			
Chelicerata	Arachnida	Acari	-	-	-	Acari indet.*								x	x
Chelicerata	Arachnida	Acari	Trombidiformes	-	-	Hydrachnidia indet	x								
Crustacea	-	-	-	-	-	Crustacea indet.*			x	x	x		x	x	x
Crustacea	Branchiopoda	Phyllopoda	Diplostraca	-	-	Cladocera indet.					x				
Crustacea	Branchiopoda	Phyllopoda	Diplostraca/Anomopoda	Bosminidae	-	*Bosmina longicornis*	x	x							
Crustacea	Branchiopoda	Phyllopoda	Diplostraca/Anomopoda	Bosminidae	-	*Bosmina* sp.	x								
Crustacea	Branchiopoda	Phyllopoda	Diplostraca/Anomopoda	Bosminidae	-	Bosminidae indet.**			x			x	x	x	x
Crustacea	Branchiopoda	Phyllopoda	Diplostraca/Anomopoda	Chydoridae	-	*Chydorus sphaericus*		x							x
Crustacea	Branchiopoda	Phyllopoda	Diplostraca/Anomopoda	Daphniidae	-	*Daphnia* sp.***	x					x	x	x	x
Crustacea	Copepoda	-	-	-	-	Cirripedia indet.	x	x							
Crustacea	Copepoda	Copepoda	-	-	-	Copepoda indet.*	x	x		x	x	x	x	x	x
Crustacea	Copepoda	Copepoda	Calanoida	-	-	Calanoida indet.*	x		x	x	x	x	x	x	x
Crustacea	Copepoda	Copepoda	Calanoida	Acartiidae	-	*Acarti* sp.***						x			
Crustacea	Copepoda	Copepoda	Calanoida	Acartiidae	-	*Acartia hudsonica*		x					x		
Crustacea	Copepoda	Copepoda	Calanoida	Acartiidae	-	*Acartia longiremis*	x	x	x		x	x	x	x	x
Crustacea	Copepoda	Copepoda	Calanoida	Acartiidae	-	*Acartia* sp.*	x	x	x	x	x	x		x	x
Crustacea	Copepoda	Copepoda	Calanoida	Calanidae	-	*Calanus finmarchicus*	x	x	x	x	x	x	x	x	x
Crustacea	Copepoda	Copepoda	Calanoida	Calanidae	-	*Calanus glacialis*	x	x	x	x	x	x	x	x	x
Crustacea	Copepoda	Copepoda	Calanoida	Calanidae	-	*Calanus hyperboreus*	x	x	x	x	x	x	x	x	x
Crustacea	Copepoda	Copepoda	Calanoida	Calanidae	-	*Calanus* sp.*			x	x	x	x	x	x	x
Crustacea	Copepoda	Copepoda	Calanoida	Centropagidae	-	*Centropages* sp.	x			x				x	x
Crustacea	Copepoda	Copepoda	Calanoida	Centropagidae	-	*Limnocalanus macrurus*						x	x	x	
Crustacea	Copepoda	Copepoda	Calanoida	Clausocalanidae	-	Clausocalinidae indet.*								x	
Crustacea	Copepoda	Copepoda	Calanoida	Clausocalanidae	-	*Ctenocalanus* sp.				x					
Crustacea	Copepoda	Copepoda	Calanoida	Clausocalanidae	-	*Ctenocalanus vanus*			x	x					
Crustacea	Copepoda	Copepoda	Calanoida	Clausocalanidae	-	*Ctenocalanus* sp.				x					
Crustacea	Copepoda	Copepoda	Calanoida	Clausocalanidae	-	*Ctenocalanus vanus*			x	x					
Crustacea	Copepoda	Copepoda	Calanoida	Clausocalanidae	-	*Microcalanus* sp.			x	x	x	x	x		x
Crustacea	Copepoda	Copepoda	Calanoida	Clausocalanidae	-	*Pseudocalanus* sp. complex*	x	x	x	x	x	x	x	x	x
Crustacea	Copepoda	Copepoda	Calanoida	Diaptomidae	-	**Diaptomidae indet.**								x	
Crustacea	Copepoda	Copepoda	Calanoida	Lucicutilidae	-	*Lucicutia longicornis*		x							
Crustacea	Copepoda	Copepoda	Calanoida	Lucicutilidae	-	*Lucicutia* sp	x								
Crustacea	Copepoda	Copepoda	Calanoida	Metridinidae	-	*Metridia* sp.	x		x	x				x	
Crustacea	Copepoda	Copepoda	Calanoida	Pontellidae	-	Pontellidae indet.	x								
Crustacea	Copepoda	Copepoda	Calanoida	Rathkeidae	-	*Rathkea* sp.			x						
Crustacea	Copepoda	Copepoda	Calanoida	Scolecitrichidae	-	*Scolecithricella* sp.			x	x					x
Crustacea	Copepoda	Copepoda	Calanoida	Temoridae	-	*Eurytemora herdmani*	x								
Crustacea	Copepoda	Copepoda	Cyclopoida	-	-	Cyclopoida indet.*			x	x	x	x	x	x	x
Crustacea	Copepoda	Copepoda	Cyclopoida	Corycaeidae	-	*Corycaeus* sp.	x								
Crustacea	Copepoda	Copepoda	Cyclopoida	Cyclopoidae	-	Cyclopidae indet.*								x	
Crustacea	Copepoda	Copepoda	Cyclopoida	Cyclopoidae	-	*Cyclops* sp.*								x	x
Crustacea	Copepoda	Copepoda	Cyclopoida	Cyclopoidae	-	*Cyclops scutifer***						x	x		
Crustacea	Copepoda	Copepoda	Cyclopoida	Oithonidae	-	*Oithona atlantica*	x	x	x	x					
Crustacea	Copepoda	Copepoda	Cyclopoida	Oithonidae	-	*Oithona similis*	x	x	x	x	x	x		x	
Crustacea	Copepoda	Copepoda	Cyclopoida	Oithonidae	-	*Oithona* sp.*	x	x	x	x	x	x	x	x	x
Crustacea	Copepoda	Copepoda	Cyclopoida	Oncaeidae	-	*Oncaea minuta*	x								
Crustacea	Copepoda	Copepoda	Cyclopoida	Oncaeidae	-	*Oncaea* sp.*	x		x	x	x	x		x	
Crustacea	Copepoda	Copepoda	Cyclopoida	Oncaeidae	-	Oncaeidae indet.*		x	x					x	x
Crustacea	Copepoda	Copepoda	Cyclopoida	Oncaeidae	-	*Triconia borealis*		x	x					x	x
Crustacea	Copepoda	Copepoda	Cyclopoida	Sapphirinidae	-	*Sapphirina* sp.	x	x	x						
Crustacea	Copepoda	Copepoda	Harpacticoida	-	-	Harpacticoida indet.*		x		x	x	x	x	x	x
Crustacea	Copepoda	Copepoda	Harpacticoida	Ectinosomatidae	-	*Microsetella norvegica*	x	x	x	x	x	x	x	x	x
Crustacea	Copepoda	Copepoda	Harpacticoida	Ectinosomatidae	-	*Microsetella* sp.			x	x	x			x	
Crustacea	Copepoda	Copepoda	Harpacticoida	Peltidiidae	Clytemnestrinae	Clytemnestra scutellata	x	x							
Crustacea	Copepoda	Copepoda	Harpacticoida	Peltidiidae	Clytemnestrinae	Clytemnestra sp.			x						
Crustacea	Copepoda	Copepoda	Harpacticoida	Tachidiidae	-	*Euterpina acutifrons*	x	x	x						
Crustacea	Copepoda	Copepoda	Monstrilloida	Monstrillidae	-	***Monstrilla* sp.**								x	
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	-	-	Amphipoda indet.*	x	x	x					x	
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	-	-	Lysianassoidea indet.				x			x		
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Calliopiidae	-	*Apherusa* sp.				x					
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	-	*Gammarus* sp.*									x
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	-	*Hyperia* sp.*								x	
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	-	*Hyperia medusarum*			x					x	
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	-	Hyperiidae indet.*				x	x		x	x	x
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	-	Hyperiidea indet.*							x		
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	-	*Hyperoche medusarum*			x			x			
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	-	*Themisto abyssorum*			x						
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	-	*Themisto libellula*			x	x	x	x	x		x
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	-	*Themisto* sp.	x		x	x			x	x	x
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Onisimus glacialis*					x				
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Onisimus litoralis*				x					
Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	-	*Onisimus* sp.				x			x		x
Crustacea	Malacostraca	Eumalacostraca	Decapoda	-	-	Caridea indet.				x					
Crustacea	Malacostraca	Eumalacostraca	Decapoda	Crangonidae	-	Cragonidae indet.				x					x
Crustacea	Malacostraca	Eumalacostraca	Decapoda	Crangonidae	-	*Sabinea septemcarinata*			x	x			x	x	x
Crustacea	Malacostraca	Eumalacostraca	Decapoda	Hippolytidae	-	Hippolytidae indet.				x					
Crustacea	Malacostraca	Eumalacostraca	Decapoda	Sapphirinidae	-	*Sapphirina opalina*	x								
Crustacea	Malacostraca	Eumalacostraca	Euphausiacea	-	-	Euphausiacea indet.				x					
Crustacea	Malacostraca	Eumalacostraca	Isopoda	-	-	Isopoda indet.*			x	x	x	x	x	x	x
Crustacea	Malacostraca	Eumalacostraca	Mysida	-	-	Mysida indet.	x								
Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Mysinae	*Mysis litoralis*			x						
Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Mysinae	*Mysis* sp.*				x		x	x	x	
Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Erythropinae	*Erythrops* sp.				x					x
Crustacea	Ostracoda	-	-	-	-	Ostracoda indet.				x				x	
Crustacea	Thecostraca	Cirripedia	Balanomorpha	-	-	Balanomorpha indet.*			x	x	x	x	x	x	x
Hexapoda	Insecta	-	-	-	-	Insecta indet.***						x			
Hexapoda	Insecta	Pterygota	Diptera	-	-	Diptera indet.***						x			
Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	-	Chironomidae indet.***						x		x	x
Bryozoa															
-	-	-	-	-	-	Bryozoa indet.*				x				x	
Chaetognatha															
-	-	-	-	-	-	Chaetognatha indet.		x						x	x
-	Sagittoidea	-	Aphragmophora	Sagittidae	-	*Parasagitta elegans*	x		x	x	x	x	x	x	x
-	Sagittoidea	-	Aphragmophora	Sagittidae	-	*Parasagitta* sp.			x	x					
-	Sagittoidea	-	Aphragmophora	Sagittidae	-	Sagittidae indet.	x	x							
-	Sagittoidea	-	Phragmophora	Eukrohniidae	-	*Eukrohnia hamata*	x								
Chordata															
Tunicata	Appendicularia	-	Copelata	Fritillariidae	Fritillariinae	*Fritillaria* sp.*	x	x		x	x	x		x	x
Tunicata	Appendicularia	-	Copelata	Oikopleuridae	Oikopleurinae	*Oikopleura* sp.*	x		x	x	x	x	x		x
Tunicata	Ascidiacea	-	-	-	-	Ascidiacea indet.*							x	x	
Vertebrata	Actinopterygii	-	Gadiformes	Gadidae	-	Gadidae indet.			x	x	x		x		x
Vertebrata	Actinopterygii	-	Perciformes	Ammodytidae	-	*Ammodytes* sp.*				x		x	x	x	x
Vertebrata	Actinopterygii	-	Perciformes	Pholidae	-	*Pholis fasciata*			x						

Appendix 8D-1
Zooplankton Taxa Presence/Absence from Baseline Survey Years to 2024

Phylum Subphylum	Class	Subclass	Order	Family	Subfamily	Taxa	Baseline	2016	2017	2018	2019	2020	2022	2023	2024
Vertebrata	Actinopterygii	-	Perciformes	Stichaeidae	-	Stichaeidae indet.*									x
Vertebrata	Actinopterygii	-	Scorpaeniformes	Cottidae	-	Cottidae indet.			x					x	
Vertebrata	Actinopterygii	-	Scorpaeniformes	Liparidae	-	*Liparis* sp.						x			
Cnidaria															
-	-	-	-	-	-	Cnidaria indet.*		x	x	x	x	x			
-	Hydrozoa	-	-	-	-	Hydrozoa indet.*								x	x
-	Hydrozoa	Hydroidolina	Anthoathecata	-	-	Anthoathecata indet.*	x								
-	Hydrozoa	Hydroidolina	Anthoathecata	Bougainvilliidae	-	*Bougainvillia* sp.						x			
-	Hydrozoa	Hydroidolina	Anthoathecata	Corymorphidae	-	Corymorphidae indet.*								x	
-	Hydrozoa	Hydroidolina	Anthoathecata	Corymorphidae	-	*Euphysa* sp.	x			x	x		x	x	x
-	Hydrozoa	Hydroidolina	Anthoathecata	Pandeidae	-	*Catablema vesicarium*			x	x					
-	Hydrozoa	Hydroidolina	Anthoathecata	Pandeidae	-	Pandeidae indet.*						x	x	x	x
-	Hydrozoa	Hydroidolina	Anthoathecata	Tubulariidae	-	*Hybocodon prolifer*					x				
-	Hydrozoa	Hydroidolina	Leptothecata	Campanulariidae	-	*Obelia* sp.					x				
-	Hydrozoa	Hydroidolina	Siphonophorae	-	-	Siphonophore indet.				x					
-	Hydrozoa	Trachylinae	Narcomedusae	Solmundaeginidae	-	*Aeginopsis laurentii*			x	x	x		x	x	x
-	Hydrozoa	Trachylinae	Trachymedusae	Rhopalonematidae	-	*Aglantha digitale*	x		x	x	x	x	x	x	x
-	Hydrozoa	Trachylinae	Trachymedusae	Rhopalonematidae	-	*Aglantha* sp.*			x	x					
-	Scyphozoa	-	-	-	-	Scyphozoa indet.*							x	x	
Ctenophora															
-	-	-	-	-	-	Ctenophora indet.	x				x		x	x	x
-	Nuda	-	Beroida	Beroidae	-	*Beroe cucumis*		x							
-	Nuda	-	Beroida	Beroidae	-	*Beroe gracilis*	x								
-	Nuda	-	Beroida	Beroidae	-	*Beroe* sp.*				x			x	x	x
-	Tentaculata	-	Cydippida	Mertensiidae	-	*Mertensia ovum**							x		
Echinodermata															
-	-	-	-	-	-	Echinodermata indet.	x	x							
Echinozoa	Echinoidea	-	-	-	-	Echinoidea indet.*			x	x	x	x		x	x
Asterozoa	Asteroidea	-	-	-	-	Asteroidea indet.*								x	
Asterozoa	Ophiuroidea	-	-	-	-	Ophiuroidea indet.*							x	x	x
Mollusca															
-	Bivalvia	-	-	-	-	Bivalvia indet.*	x	x	x	x	x	x	x	x	x
-	Gastropoda	-	-	-	-	Gastropoda indet.*			x	x	x	x	x	x	x
-	Gastropoda	Heterobranchia	Pteropoda	-	-	Gymnosomata indet.	x							x	
-	Gastropoda	Heterobranchia	Pteropoda	Clionidae	-	*Clione* sp.*								x	x
-	Gastropoda	Heterobranchia	Pteropoda	Clionidae	-	*Clione limacina*	x		x	x	x	x	x	x	x
-	Gastropoda	Heterobranchia	Pteropoda	Limacinidae	-	*Limacina helicina*	x		x	x	x	x	x	x	x
-	Gastropoda	Heterobranchia	Pteropoda	Limacinidae	-	*Limacina* sp.*	x	x	x			x	x	x	x
Nemertea															
-	-	-	-	-	-	Nemertea indet.			x					x	x
Rotifera															
-	-	-	-	-	-	Rotifera indet.			x						
-	Eurotatoria	Monogononta	Ploima	Synchaetidae	-	*Synchaeta hyperborea*		x							
-	Eurotatoria	Monogononta	Ploima	Synchaetidae	-	*Synchaeta* sp.			x						
						Total Taxa Observed	**49**	**33**	**59**	**61**	**41**	**46**	**49**	**70**	**60**

Notes: Taxa in bold indicate the first observation of the taxa during MEEMP and NIS/AIS surveys. Taxa identified to the lowest practical taxonomic level; presence/absence for previous years taken from SEM 2015, 2016, 2017a, Golder 2018, Golder 2019a, Golder 2020a, Golder 2021a, WSP 2023, WSP 2024. *=Species or taxa from lower taxonomic levels identified in other survey years and/or in other survey methods; **=Freshwater taxon; ***= Incidental (benthic or terrestrial taxa or life stages); indet.= indeterminate (taxa could not be identified beyond the taxonomic level listed); sp.=species.
(a) Baseline includes zooplankton observations in 2008, 2010, 2014, and 2015.

APPENDIX 8D-2

Zooplankton Laboratory Data 2024

biologica

Zooplankton total abundance data matrix for WSP Baffinland MEEMP, 2024.

Biologica Sample ID											mz24-033-016	mz24-033-017	mz24-033-018	mz24-033-019	mz24-033-020	mz24-033-021	mz24-033-022	mz24-033-023	mz24-033-024	mz24-033-025	mz24-033-026	mz24-033-027	mz24-033-028
Client Sample ID									Grand Total		ZH-01	ZH-01	ZH-02	ZH-02	ZH-03	ZH-03	ZH-04	ZH-05	ZH-06	ZH-4	ZH-5	ZH-6	ZV-01
Date Sampled											02-Aug-24	17-Aug-24	02-Aug-24	17-Aug-24	02-Aug-24	17-Aug-24	17-Aug-24	17-Aug-24	17-Aug-24	06-Aug-24	06-Aug-24	06-Aug-24	02-Aug-24
Groupcode	Phylum	Subphylum	Class	Subclass	Order	Family	Taxon	Stage	Total Unique Taxa	Total Abundance (#/sample)	Total Abundance (#/sample)	Total Abundance (#/sample)	Total Abundance (#/sample)	Total Abundance (#/sample)	Total Abundance (#/sample)	Total Abundance (#/sample)	Total Abundance (#/sample)	Total Abundance (#/sample)	Total Abundance (#/sample)	Total Abundance (#/sample)	Total Abundance (#/sample)	Total Abundance (#/sample)	Total Abundance (#/sample)
CHAE	Chaetognatha		Sagittoidea		Aphragmophora	Sagittidae	Parasagitta elegans		1	4,540	97	928	107	180	96	284	136	480	181	480	832	416	11
CHAE	Chaetognatha						Chaetognatha indet.			592								8					32
CNHY	Cnidaria		Hydrozoa	Hydroidolina	Anthoathecata	Corymorphidae	Euphysa sp.	Medusa	1	9	3		1		3					2			
CNHY	Cnidaria		Hydrozoa	Hydroidolina	Anthoathecata	Pandeidae	Pandeidae indet.	Medusa	1	3		1										1	
CNHY	Cnidaria		Hydrozoa	Trachylinae	Narcomedusae	Solmundaeginidae	Aeginopsis laurentii	Medusa	1	14							1		1				1
CNHY	Cnidaria		Hydrozoa	Trachylinae	Trachymedusae	Rhopalonematidae	Aglantha digitale	Medusa	1	929	144	104	117	47	128	58	32	51	48	16	5	30	24
CNHY	Cnidaria		Hydrozoa				Hydrozoa indet.	Medusa		639	32		11	4	8	16	8	80	59		32	64	
CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Hyperiidae indet.			100					8					16	10	64	2
CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto libellula		1	197	64	4	65		8	3	2	2	1	24	13	4	1
CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto sp.			18												11	
CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	Onisimus sp.		1	56	2	4	3		2	2	1	4	2	8	16	9	
CRCI	Arthropoda	Crustacea	Thecostraca	Cirripedia	Balanomorpha		Balanomorpha indet.	Cypris	1	515		40	21	16	24		8	16	5	96	128	96	32
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Acartiidae	Acartia longiremis	VIf	1	8						4	4						
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Acartiidae	Acartia sp.	I-IV		16													
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Acartiidae	Acartia sp.	V		544			32	24	8	4	20	24	16		224	128	32
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Acartiidae	Acartia sp.	VIf		11			11										
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus finmarchicus	V	1	13			11										2
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus finmarchicus	VIf		25	16				8								
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus glacialis	V	1	1,920	128	8	341		88		1			352	512	448	10
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus glacialis	VIf		1,624	128	16	107	1	56		4			208	736	320	7
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus glacialis	VIm		27			11							16			
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus hyperboreus	V	1	3,642	528		480		360					544	928	704	31
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus hyperboreus	VIf		1,486	368		171		168					240	320	192	8
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus hyperboreus	VIm		81	16											64	
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus sp.	I-IV		6,480	1056	176	523	116	280	28	36	32	21	1024	2080	768	96
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Centropagidae	Centropages sp.	V	1	16	16												
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Clausocalanidae	Microcalanus sp.	V	1	32											32		
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Clausocalanidae	Pseudocalanus sp. complex	V	1	5,133	176	184	256	52	256	72	28	96	32	832	1760	960	96
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Clausocalanidae	Pseudocalanus sp. complex	VIf		309	48	16	21	12	24	24	4	16	16	96	32		
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Scolecitrichidae	Scolecithricella sp.	V	1	4				4									
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida		Calanoida indet.	I-IV		13,591	592	456	885	228	376	240	176	224	91	1472	3968	2528	320
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oithonidae	Oithona sp.	I-IV	1	54,083	112	32	85	56		196	212	64	155	384	352	256	1728
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oithonidae	Oithona sp.	V		2,741	272	120	96	56	16								
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oithonidae	Oithona sp.	VIf		1,604	176	40	11	32	16	20	40	296	16	128	96	128	128
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oithonidae	Oithona sp.	VIm		137	48	8				8	4	8	5	32			
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oncaeidae	Oncaeidae indet.	I-IV	1	8,107													2496
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oncaeidae	Oncaeidae indet.	V		544													
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oncaeidae	Oncaeidae indet.	VIm		21													
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oncaeidae	Triconia borealis	I-IV	1	128													128
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oncaeidae	Triconia borealis	V		48													
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oncaeidae	Triconia borealis	VIf		64													32
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oncaeidae	Triconia borealis	VIm		16													
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida		Cyclopoida indet.	I-IV		347													
CRCO	Arthropoda	Crustacea	Copepoda		Harpacticoida	Ectinosomatidae	Microsetella norvegica	I-IV	1	1,840													160
CRCO	Arthropoda	Crustacea	Copepoda		Harpacticoida	Ectinosomatidae	Microsetella norvegica	V		531					16								128
CRCO	Arthropoda	Crustacea	Copepoda		Harpacticoida	Ectinosomatidae	Microsetella norvegica	VIf		133													32
CRCO	Arthropoda	Crustacea	Copepoda		Harpacticoida	Ectinosomatidae	Microsetella norvegica	VIm		48													
CRCO	Arthropoda	Crustacea	Copepoda				Copepoda indet.	Nauplius		91,384	48	144	11	140	24	144	148	224	133	224	32		6400
CRDE	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Crangonidae	Crangonidae indet.	Megalopa	1	5											4	1	
CRDE	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Crangonidae	Crangonidae indet.	Zoea		32												32	
CRDE	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Crangonidae	Sabinea septemcarinata	Megalopa	1	1					1								
CRIS	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda		Isopoda indet.	Cryptoniscid larvae	1	191		40		28		8	16	24	11				
CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Mysis sp.		1	2													1
CRXX	Arthropoda	Crustacea					Crustacea indet.	Nauplius		56	16							8					
CTEN	Ctenophora		Nuda		Beroida	Beroidae	Beroe sp.		1	16		3				4	1		2			4	
CTEN	Ctenophora						Ctenophora indet.			41	4		3	6	16	1	1		3	1	1	2	
ECEC	Echinodermata	Echinozoa	Echinoidea				Echinoidea indet.	Echinopluteus	1	272				4	8		4		5	32			96
ECOP	Echinodermata	Asterozoa	Ophiuroidea				Ophiuroidea indet.	Ophiopluteus	1	451								8	16			32	96
EGGS							Egg/egg mass	Egg		18,227				12	16	24	20	48	59	32	32	64	384
MOBI	Mollusca		Bivalvia				Bivalvia indet.	Veliger	1	3,263		16		4	8	20	12	24	5		64		288
MOGA	Mollusca		Gastropoda	Heterobranchia	Pteropoda	Clionidae	Clione limacina		1	79	1	20		5	3	21	5	6	4	5	4	3	
MOGA	Mollusca		Gastropoda	Heterobranchia	Pteropoda	Clionidae	Clione sp.			613		32	21	12	8		12	24	11			64	64
MOGA	Mollusca		Gastropoda	Heterobranchia	Pteropoda	Limacinidae	Limacina helicina		1	51	16		11	1		1	2	6	5	5		2	
MOGA	Mollusca		Gastropoda	Heterobranchia	Pteropoda	Limacinidae	Limacina sp.			148	32			12	8								
MOGA	Mollusca		Gastropoda				Gastropoda indet.	Veliger		5,177	64	24	160	20	312	4	12	32		192	448	352	800
NTEA	Nemertea						Nemertea indet.	Pilidium	1	4						4							
PIXX	Chordata	Vertebrata	Actinopteri	Teleostei	Gadiformes	Gadidae	Gadidae indet.	L	1	5			1					1	1		1		
PIXX	Chordata	Vertebrata	Actinopteri	Teleostei	Perciformes	Ammodytidae	Ammodytes sp.	L	1	5	1		1							1	2		
PIXX	Chordata	Vertebrata	Actinopteri	Teleostei	Perciformes	Stichaeidae	Stichaeidae indet.	L	1	1			1										
POSE	Annelida		Polychaeta	Sedentaria	Sabellida	Oweniidae	Oweniidae indet.	Mitraria	1	205								8					
POXX	Annelida		Polychaeta				Polychaeta indet.	Metatrochophore		104					8								
POXX	Annelida		Polychaeta				Polychaeta indet.	Trochophore		112													
URAP	Chordata	Tunicata	Appendicularia		Copelata	Fritillariidae	Fritillaria sp.		1	12,443	64	72	53	108	32	192	492	1032	859	704	160	288	352

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Zooplankton total abundance data matrix for WSP Baffinland MEEMP, 2024.

Biologica Sample ID									Grand Total		mz24-033-016	mz24-033-017	mz24-033-018	mz24-033-019	mz24-033-020	mz24-033-021	mz24-033-022	mz24-033-023	mz24-033-024	mz24-033-025	mz24-033-026	mz24-033-027	mz24-033-028
Client Sample ID											**ZH-01**	**ZH-01**	**ZH-02**	**ZH-02**	**ZH-03**	**ZH-03**	**ZH-04**	**ZH-05**	**ZH-06**	**ZH-4**	**ZH-5**	**ZH-6**	**ZV-01**
Date Sampled											**02-Aug-24**	**17-Aug-24**	**02-Aug-24**	**17-Aug-24**	**02-Aug-24**	**17-Aug-24**	**17-Aug-24**	**17-Aug-24**	**17-Aug-24**	**06-Aug-24**	**06-Aug-24**	**06-Aug-24**	**02-Aug-24**
Groupcode	**Phylum**	**Subphylum**	**Class**	**Subclass**	**Order**	**Family**	**Taxon**	**Stage**	**Total Unique Taxa**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**
URAP	Chordata	Tunicata	Appendicularia		Copelata	Oikopleuridae	Oikopleura sp.		1	2,435	96	24	149	12	96	20	4	8	5	112	288	32	10
							Total Abundance:			**248,287**	**4,364**	**2,512**	**3,776**	**1,192**	**2,489**	**1,402**	**1,446**	**2,854**	**1,768**	**7,278**	**13,112**	**8,067**	**14,028**
							Total Unique Taxa (species richness):		**37**		**17**	**15**	**20**	**16**	**22**	**16**	**18**	**18**	**20**	**17**	**19**	**18**	**20**
Freshwater Zooplankton Taxa:																							
CRCO	Arthropoda	Crustacea	Branchiopoda	Phyllopoda	Diplostraca	Bosminidae	Bosminidae indet.		1	44						4	8						
CRCO	Arthropoda	Crustacea	Branchiopoda	Phyllopoda	Diplostraca	Chydoridae	Chydorus sphaericus		1	12		8		4									
CRCO	Arthropoda	Crustacea	Branchiopoda	Phyllopoda	Diplostraca	Daphnidae	Daphnia sp.		1	24	16			4			4						
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Cyclopidae	Cyclopidae indet.	I-IV		643	176	120	43	24	48	72	48	48					64
CRCL	Arthropoda	Crustacea	Copepoda		Cyclopoida	Cyclopidae	Cyclopidae indet.	V		433	160	160	53	28	32								
CRCL	Arthropoda	Crustacea	Copepoda		Cyclopoida	Cyclopidae	Cyclops sp.	VIf	1	267	112	56	11	28	16	20	8	16					
CRCL	Arthropoda	Crustacea	Copepoda		Cyclopoida	Cyclopidae	Cyclops sp.	VIm		121	48	8	21	24	8	12							
							Total Freshwater Zooplankton Abundance:			**1,544**	**512**	**352**	**128**	**112**	**104**	**108**	**68**	**64**					**64**
							Total Unique Taxa (species richness):		**4**		**2**	**2**	**1**	**3**	**1**	**2**	**3**	**1**					**1**
MEMO/incidental taxa (Benthic):																							
MEMO	Arthropoda	Chelicerata	Arachnida	Acari			Acari indet.	L		8		8											
MEMO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Harpacticoida		Harpacticoida indet.	I-IV		59				8		12	12	16	11				
MEMO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Harpacticoida		Harpacticoida indet.	V		64													
MEMO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Harpacticoida		Harpacticoida indet.	VIf		12							12						
MEMO	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A		1								1					
MEMO	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae indet.	L		8		8											

Biologica Sample ID									Grand Total		mz24-033-029	mz24-033-030	mz24-033-031	mz24-033-032	mz24-033-033	mz24-033-034	mz24-033-035	mz24-033-036	mz24-033-037	mz24-033-038	mz24-033-039	mz24-033-018_QA	mz24-033-031_QA
Client Sample ID											**ZV-01**	**ZV-02**	**ZV-02**	**ZV-03**	**ZV-03**	**ZV-04**	**ZV-04**	**ZV-05**	**ZV-05**	**ZV-06**	**ZV-06**	**ZH-02_QA**	**ZV-02_QA**
Date Sampled											**17-Aug-24**	**02-Aug-24**	**17-Aug-24**	**02-Aug-24**	**17-Aug-24**	**02-Aug-24**	**17-Aug-24**	**02-Aug-24**	**17-Aug-24**	**02-Aug-24**	**17-Aug-24**	**02-Aug-24**	**17-Aug-24**
Groupcode	**Phylum**	**Subphylum**	**Class**	**Subclass**	**Order**	**Family**	**Taxon**	**Stage**	**Total Unique Taxa**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**
CHAE	Chaetognatha		Sagittoidea		Aphragmophora	Sagittidae	Parasagitta elegans		1	4,540	67	3	137	6	16	18	24	12	13	11	5	75	297
CHAE	Chaetognatha						Chaetognatha indet.			592		8		21	192	16	32	11	128	16	128		
CNHY	Cnidaria		Hydrozoa	Hydroidolina	Anthoathecata	Corymorphidae	Euphysa sp.	Medusa	1	9												1	
CNHY	Cnidaria		Hydrozoa	Hydroidolina	Anthoathecata	Pandeidae	Pandeidae indet.	Medusa	1	3										1			
CNHY	Cnidaria		Hydrozoa	Trachylinae	Narcomedusae	Solmundaeginidae	Aeginopsis laurentii	Medusa	1	14	3		1		1	2	1		1		2		1
CNHY	Cnidaria		Hydrozoa	Trachylinae	Trachymedusae	Rhopalonematidae	Aglantha digitale	Medusa	1	929	1	26	3	25	6	19	3	19	1	21	1	107	3
CNHY	Cnidaria		Hydrozoa				Hydrozoa indet.	Medusa		639	64		64	21			32		64	16	64		96
CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Hyperiidae indet.			100													
CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto libellula		1	197		4		1						1		44	
CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Hyperiidae	Themisto sp.			18				2		4		1					
CRAM	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Uristidae	Onisimus sp.		1	56				1		2						3	
CRCI	Arthropoda	Crustacea	Thecostraca	Cirripedia	Balanomorpha		Balanomorpha indet.	Cypris	1	515	32											21	64
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Acartiidae	Acartia longiremis	VIf	1	8													
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Acartiidae	Acartia sp.	I-IV		16						16							
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Acartiidae	Acartia sp.	V		544									32			11	
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Acartiidae	Acartia sp.	VIf		11													
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus finmarchicus	V	1	13												11	
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus finmarchicus	VIf		25								1					
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus glacialis	V	1	1,920			1	9		5		8		9		309	1
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus glacialis	VIf		1,624	1		1	6		1		7		2	23	53	1
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus glacialis	VIm		27													
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus hyperboreus	V	1	3,642				14		20		20		13		480	
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus hyperboreus	VIf		1,486				2		6		4		7		160	
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus hyperboreus	VIm		81						1						11	
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Calanidae	Calanus sp.	I-IV		6,480	96	10	18	20	14	14	8	16	18	14	16	555	18
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Centropagidae	Centropages sp.	V	1	16													
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Clausocalanidae	Microcalanus sp.	V	1	32													
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Clausocalanidae	Pseudocalanus sp. complex	V	1	5,133	64	24	32	21		32	32	32		64	32	213	64
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Clausocalanidae	Pseudocalanus sp. complex	VIf		309												43	
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida	Scolecitrichidae	Scolecithricella sp.	V	1	4													
CRCO	Arthropoda	Crustacea	Copepoda		Calanoida		Calanoida indet.	I-IV		13,591	224	120	256	107	96	272	288	160	288	128	96	960	160
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oithonidae	Oithona sp.	I-IV	1	54,083	6368	872	9664	1685	7104	1216	8960	821	5952	1280	6528	75	8320
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oithonidae	Oithona sp.	V		2,741	800	64		149	352	96	224	32	224	16	224	128	224
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oithonidae	Oithona sp.	VIf		1,604	96	24	96	21	96	16	64	32			32	21	96
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oithonidae	Oithona sp.	VIm		137		8				16							
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oncaeidae	Oncaeidae indet.	I-IV	1	8,107	288	752	128	960	224	560	352	619	512	896	320		288
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oncaeidae	Oncaeidae indet.	V		544	32			64	32	96	64	96		128	32		64
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oncaeidae	Oncaeidae indet.	VIm		21				21									
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oncaeidae	Triconia borealis	I-IV	1	128													
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oncaeidae	Triconia borealis	V		48		16									32		
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oncaeidae	Triconia borealis	VIf		64						16				16			
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Oncaeidae	Triconia borealis	VIm		16										16			
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida		Cyclopoida indet.	I-IV		347		48	128	43		16	32	32		16	32		96
CRCO	Arthropoda	Crustacea	Copepoda		Harpacticoida	Ectinosomatidae	Microsetella norvegica	I-IV	1	1,840	192	48	352	128	224	112	384	32	128	16	64		320

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Zooplankton total abundance data matrix for WSP Baffinland MEEMP, 2024.

Biologica Sample ID										**Grand Total**		**mz24-033-016**	**mz24-033-017**	**mz24-033-018**	**mz24-033-019**	**mz24-033-020**	**mz24-033-021**	**mz24-033-022**	**mz24-033-023**	**mz24-033-024**	**mz24-033-025**	**mz24-033-026**	**mz24-033-027**	**mz24-033-028**
Client Sample ID												**ZH-01**	**ZH-01**	**ZH-02**	**ZH-02**	**ZH-03**	**ZH-03**	**ZH-04**	**ZH-05**	**ZH-06**	**ZH-4**	**ZH-5**	**ZH-6**	**ZV-01**
Date Sampled												**02-Aug-24**	**17-Aug-24**	**02-Aug-24**	**17-Aug-24**	**02-Aug-24**	**17-Aug-24**	**17-Aug-24**	**17-Aug-24**	**17-Aug-24**	**06-Aug-24**	**06-Aug-24**	**06-Aug-24**	**02-Aug-24**
Groupcode	**Phylum**	**Subphylum**	**Class**	**Subclass**	**Order**	**Family**	**Taxon**	**Stage**	**Total Unique Taxa**	**Total Abundance (#/sample)**		**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**	**Total Abundance (#/sample)**
CRCO	Arthropoda	Crustacea	Copepoda		Harpacticoida	Ectinosomatidae	Microsetella norvegica	V		531		32	40			128	48	32	11	32	32	32		64
CRCO	Arthropoda	Crustacea	Copepoda		Harpacticoida	Ectinosomatidae	Microsetella norvegica	VIf		133				32	43		16		11					32
CRCO	Arthropoda	Crustacea	Copepoda		Harpacticoida	Ectinosomatidae	Microsetella norvegica	VIm		48		32									16			
CRCO	Arthropoda	Crustacea	Copepoda				Copepoda indet.	Nauplius		91,384		7680	3328	11008	8192	8576	6912	9472	5376	8448	8064	6656	21	9728
CRDE	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Crangonidae	Crangonidae indet.	Megalopa	1	5														
CRDE	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Crangonidae	Crangonidae indet.	Zoea		32														
CRDE	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Crangonidae	Sabinea septemcarinata	Megalopa	1	1														
CRIS	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda		Isopoda indet.	Cryptoniscid larvae	1	191						32				32				
CRMY	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Mysis sp.		1	2											1			
CRXX	Arthropoda	Crustacea					Crustacea indet.	Nauplius		56		32												
CTEN	Ctenophora		Nuda		Beroida	Beroidae	Beroe sp.		1	16		1						1						
CTEN	Ctenophora						Ctenophora indet.			41			1		1		1		11				3	
ECEC	Echinodermata	Echinozoa	Echinoidea				Echinoidea indet.	Echinopluteus	1	272			16					32	11		32	32		32
ECOP	Echinodermata	Asterozoa	Ophiuroidea				Ophiuroidea indet.	Ophiopluteus	1	451			32		128		80		11		48			
EGGS							Egg/egg mass	Egg		18,227		768	384	1152	1792	768	1024	768	3840	1408	3456	2176		768
MOBI	Mollusca		Bivalvia				Bivalvia indet.	Veliger	1	3,263		128	128	288	277	544	112	256	192	480	320	96		448
MOGA	Mollusca		Gastropoda	Heterobranchia	Pteropoda	Clionidae	Clione limacina		1	79			1			1								
MOGA	Mollusca		Gastropoda	Heterobranchia	Pteropoda	Clionidae	Clione sp.			613		71	8	133	23	69	19	35		3		4	11	37
MOGA	Mollusca		Gastropoda	Heterobranchia	Pteropoda	Limacinidae	Limacina helicina		1	51		1							1				21	
MOGA	Mollusca		Gastropoda	Heterobranchia	Pteropoda	Limacinidae	Limacina sp.			148									32		32	32		
MOGA	Mollusca		Gastropoda				Gastropoda indet.	Veliger		5,177		96	272	160	576	160	432	96	85	64	304	512	128	96
NTEA	Nemertea						Nemertea indet.	Pilidium	1	4														
PIXX	Chordata	Vertebrata	Actinopteri	Teleostei	Gadiformes	Gadidae	Gadidae indet.	L	1	5										1			2	
PIXX	Chordata	Vertebrata	Actinopteri	Teleostei	Perciformes	Ammodytidae	Ammodytes sp.	L	1	5													1	
PIXX	Chordata	Vertebrata	Actinopteri	Teleostei	Perciformes	Stichaeidae	Stichaeidae indet.	L	1	1														
POSE	Annelida		Polychaeta	Sedentaria	Sabellida	Oweniidae	Oweniidae indet.	Mitraria	1	205				32		32		96	21		16			
POXX	Annelida		Polychaeta				Polychaeta indet.	Metatrochophore		104										64		32		32
POXX	Annelida		Polychaeta				Polychaeta indet.	Trochophore		112						96					16			
URAP	Chordata	Tunicata	Appendicularia		Copelata	Fritillariidae	Fritillaria sp.		1	12,443		1312	72	1216	149	1024	160	1184	117	1088	272	1440	43	1152
URAP	Chordata	Tunicata	Appendicularia		Copelata	Oikopleuridae	Oikopleura sp.		1	2,435		224	22	160	34	224	47	384	44	288	23	128	171	192
							Total Abundance:			**248,287**		**18,705**	**6,331**	**25,062**	**14,545**	**20,011**	**11,423**	**22,856**	**11,706**	**19,269**	**15,319**	**18,771**	**3,680**	**22,694**
							Total Unique Taxa (species richness):		**37**			**15**	**16**	**13**	**16**	**13**	**19**	**15**	**17**	**15**	**19**	**16**	**19**	**15**
Freshwater Zooplankton Taxa:																								
CRCO	Arthropoda	Crustacea	Branchiopoda	Phyllopoda	Diplostraca	Bosminidae	Bosminidae indet.		1	44								32						
CRCO	Arthropoda	Crustacea	Branchiopoda	Phyllopoda	Diplostraca	Chydoridae	Chydorus sphaericus		1	12														
CRCO	Arthropoda	Crustacea	Branchiopoda	Phyllopoda	Diplostraca	Daphnidae	Daphnia sp.		1	24														
CRCO	Arthropoda	Crustacea	Copepoda		Cyclopoida	Cyclopidae	Cyclopidae indet.	I-IV		643													64	
CRCL	Arthropoda	Crustacea	Copepoda		Cyclopoida	Cyclopidae	Cyclopidae indet.	V		433													75	
CRCL	Arthropoda	Crustacea	Copepoda		Cyclopoida	Cyclopidae	Cyclops sp.	VIf	1	267													32	
CRCL	Arthropoda	Crustacea	Copepoda		Cyclopoida	Cyclopidae	Cyclops sp.	VIm		121														
							Total Freshwater Zooplankton Abundance:			**1,544**								**32**					**171**		
							Total Unique Taxa (species richness):		**4**								**1**					**1**		
MEMO/incidental taxa (Benthic):																								
MEMO	Arthropoda	Chelicerata	Arachnida	Acari			Acari indet.	L		8														
MEMO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Harpacticoida		Harpacticoida indet.	I-IV		59														
MEMO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Harpacticoida		Harpacticoida indet.	V		64		32								32				
MEMO	Arthropoda	Crustacea	Hexanauplia	Copepoda	Harpacticoida		Harpacticoida indet.	VIf		12														
MEMO	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus sp.	A		1														
MEMO	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae indet.	L		8														

APPENDIX 8D-3

Zooplankton Laboratory Methods

Marine Zooplankton Enumeration and Identification Methods
Client: WSP
Project: Baffinland MEEMP

Sample Inventory

Sample arrival: 30-Aug-24
Number of samples: 24
Number of jars: 24
Field screen size: Horizontal Tows = 250 µm
Vertical Tows = 64 µm
Biologica project number: mz24-033

Upon arrival, the samples were examined and double-checked against the chain of custody to ensure that (1) all samples were accounted for, and (2) each sample had the appropriate number of jars as indicated on the COC. Any discrepancies were reported to the client and were resolved before further sample handling. Samples were assigned a unique internal identification number and stored in ascending order in the sample storage area. For processing, samples were analyzed in water and then transferred into 10% Formalin for storage.

Sample Processing

Marine zooplankton samples were analyzed in 2-4 fractions as described below. All subsamples are obtained using a Folsom Splitter. Among the subsamples, a total count of a minimum of 300 organisms were identified.

(1) A "URL" fraction (Unique, Large, and Rare) comprised of unique, large and rare organisms. These tend to have low abundance. The whole sample is scanned and these organisms are removed for identification. Ichthyoplankton are included in this fraction unless they have very high abundances.
(2) One to three fraction(s) comprised of all remaining organisms in the sample. The number of fractions is determined by the size distribution and abundances of organisms in the sample. Counts are included in the fraction which most accurately captures the per-taxon abundances. All taxa (and stages/size class) are identified in only one fraction per sample. Fractions are assigned with the smallest split listed as "Fraction 1" and largest split is listed as the last fraction.

The fractions were analyzed through a stereo microscope at 10–40x magnification. All organisms were identified by taxonomic experts to the lowest taxonomic level using a compound microscope (100–400x magnification), appropriate dissection tools, and standard taxonomic references. For copepods, the stage of development was also recorded (copepodite stages I–V) as is the sex for mature individuals (copepod stage VI).

In addition, all taxa, including copepods, were assigned a size class consistent with sizing of the Zooplankton Taxonomy Laboratory at the Institute of Ocean Sciences (Sidney, BC). These size stages are explained in Table 1.

Table 1. Definition of size class stages

Size Class Code	Size (mm)
S0	< 1.0
S1	1.0 - < 5.0
S2	5.0 - < 10.0
S3	10.0 - < 15.0
S4	15.0 - < 20.0
S5	20.0 - < 25.0
S6	25.0 - < 30.0
S7	30.0 - < 35.0
S8	35.0 - < 40.0
S9	40.0 - < 45.0
S10	45.0 - < 50.0
S11	50.0 - < 55.0
S12	55.0 - < 60.0

Zooplankton were identified to species wherever possible, although immature copepods lack differentiating features required for identification beyond order (e.g., Calanoida, Cyclopoida, or Harpacticoida). All identifications were performed using taxonomic references and collaborations with external experts, where necessary.

Table 2. Summary of zooplankton samples processed for WSP Baffinland MEEMP, 2024.

Client Sample ID	Date Sampled	Tow	Biologica Sample ID	Fraction	Split	Specimens Counted*
ZH-01	02-Aug-24	Horizontal	mz24-033-016	Fraction 1	1/16	304
				Whole	Whole	12
ZH-01	17-Aug-24	Horizontal	mz24-033-017	Fraction 1	1/8	354
				Fraction 2	1/4	6
				Whole	Whole	8
ZH-02	02-Aug-24	Horizontal	mz24-033-018	Fraction 1	3/32	365
				Whole	Whole	11
ZH-02	17-Aug-24	Horizontal	mz24-033-019	Fraction 1	1/4	309
				Whole	Whole	56
ZH-03	02-Aug-24	Horizontal	mz24-033-020	Fraction 1	1/8	320
				Whole	Whole	17
ZH-03	17-Aug-24	Horizontal	mz24-033-021	Fraction 1	1/4	350
				Whole	Whole	86
ZH-04	17-Aug-24	Horizontal	mz24-033-022	Fraction 1	1/4	361
				Whole	Whole	50
ZH-05	17-Aug-24	Horizontal	mz24-033-023	Fraction 1	1/8	351
				Whole	Whole	62
ZH-06	17-Aug-24	Horizontal	mz24-033-024	Fraction 1	3/16	308
				Whole	Whole	67
ZH-4	06-Aug-24	Horizontal	mz24-033-025	Fraction 1	1/32	172
				Fraction 2	1/16	105
				Fraction 3	1/8	4

Client Sample ID	Date Sampled	Tow	Biologica Sample ID	Fraction	Split	Specimens Counted*
				Whole	Whole	30
ZH-5	06-Aug-24	Horizontal	mz24-033-026	Fraction 1	1/32	407
				Whole	Whole	56
ZH-6	06-Aug-24	Horizontal	mz24-033-027	Fraction 1	1/32	248
				Whole	Whole	67
ZV-01	02-Aug-24	Vertical	mz24-033-028	Fraction 1	1/32	225
				Fraction 2	1/128	50
				Whole	Whole	108
ZV-01	17-Aug-24	Vertical	mz24-033-029	Fraction 1	1/32	320
				Fraction 2	1/128	60
				Whole	Whole	17
ZV-02	02-Aug-24	Vertical	mz24-033-030	Fraction 1	1/8	320
				Fraction 2	1/128	26
				Whole	Whole	59
ZV-02	17-Aug-24	Vertical	mz24-033-031	Fraction 1	1/32	402
				Fraction 2	1/128	86
				Whole	Whole	38
ZV-03	02-Aug-24	Vertical	mz24-033-032	Fraction 1	3/64	209
				Fraction 2	1/128	64
				Whole	Whole	102
ZV-03	17-Aug-24	Vertical	mz24-033-033	Fraction 1	1/32	332
				Fraction 2	1/128	67
				Whole	Whole	43
ZV-04	02-Aug-24	Vertical	mz24-033-034	Fraction 1	1/16	211
				Fraction 2	1/128	54
				Whole	Whole	111
ZV-04	17-Aug-24	Vertical	mz24-033-035	Fraction 1	1/32	394
				Fraction 2	1/128	74
				Whole	Whole	40
ZV-05	02-Aug-24	Vertical	mz24-033-036	Fraction 1	3/32	224
				Fraction 2	1/128	42
				Whole	Whole	101
ZV-05	17-Aug-24	Vertical	mz24-033-037	Fraction 1	1/32	293
				Fraction 2	1/128	66
				Whole	Whole	37
ZV-06	02-Aug-24	Vertical	mz24-033-038	Fraction 1	1/16	232
				Fraction 2	1/128	63
				Whole	Whole	87
ZV-06	17-Aug-24	Vertical	mz24-033-039	Fraction 1	1/32	309
				Fraction 2	1/128	52
				Whole	Whole	51

*Eggs and MEMO organisms not included in raw specimen count.

*Freshwater specimens included in raw specimen count.

QA/QC

Ten percent (n=2) of samples were reanalyzed to assess subsampling accuracy and consistency of enumeration. The sample was chosen at random and processed at different times to reduce counting and identification bias. The results of this assessment are reported in Table 3.

Table 3. Summary of taxonomic QA/QC results for WSP Baffinland MEEMP, 2024.

Biologica Sample ID	Client Sample ID	Total Abundance (Original Replicate)	Total Abundance (QA Replicate)	Percent Agreement
mz24-033-031	ZV-02	25,062	22,694	90.55%
mz24-033-018	ZH-02	3,904	3,851	98.63%
			Average	**94.59%**

Percent Agreement:
{100 – [(difference in abundance between samples/total abundance of original sample) x 100]} %

Data

Taxonomic data were recorded in Biologica's custom database. Results were provided to the WSP project manager in Excel spreadsheets via email.

Methodological and Taxonomic References

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APPENDIX 8E-1

Record of Risk Status

Phylum Class/Order	Family	Subfamily	Taxa	Project Component	Flagged	Results of Independent Verification	Risk Category	Watch List or Trigger List?	Relevant Ecoregions	Distribution References
Annelida										
Polychaeta/Sedentaria	Cirratulidae	-	*Chaetozone anasima*	Benthic Infauna	Yes	TBD	Low Risk	Watch List	-	25, 26
Polychaeta/Terebellida	Terebellidae	Terebellinae	*Paramphitrite birulai**	Benthic Infauna	Yes (On Watch List)	N/A	Low Risk	Remain on Watchlist	-	1, 2, 15, 16, 17
Arthropoda										
Malacostraca/Decapoda	Pandalidae	-	*Pandalus montagui*	Quadrat Surveys	No	N/A	No Risk	N/A	1, 4, 5	1, 2, 3, 4
Brachiopoda										
Rhynchonellata/Rhynchonellida	Hemithiridiidae	-	*Hemithiris psittacea*	Incidentals	No	N/A	No Risk	N/A	1, 4, 5, 6, 8, 9	1, 2, 27, 28, 29, 30, 31, 32, 33
Bryophyta										
-/-	-	-	Bryophyta indet.**	Quadrat Surveys	Yes	TBD	TBD	TBD	1, 2, 3, 4, 5, 6, 7, 8, 9	2
Bryopsida/Hypnales	Amblysteigaceae	-	*Pseudocalliergon brevifolium*	Incidentals	No	N/A	No Risk	N/A	1, 2, 3, 5, 6, 7, 8, 9	2, 8, 38
Chlorophyta										
Chlorophyceae/Acrosiphoniales	Acrosiphoniaceae	-	*Acrosiphonia* sp. 3GWS	Macroalgae Collection, NextGen Sequencing	No	N/A	No Risk	N/A	5	5, 6
Chlorophyceae/Acrosiphoniales	Acrosiphoniaceae	-	*Acrosiphonia* sp. 6GWS	NextGen Sequencing	No	N/A	No Risk	N/A	5	5, 6, 7
Chlorophyceae/Acrosiphoniales	Acrosiphoniaceae	-	*Acrosiphonia* sp. 8GWS	Macroalgae Collection, NextGen Sequencing	No	N/A	No Risk	N/A	1, 5	7, 8
Ulvophyceae/Cladophorales	Cladophoraceae	-	*Chaetomorpha brachygona*	NextGen Sequencing	No	N/A	No Risk	N/A	-	35
Ulvophyceae/Cladophorales	Cladophoraceae	-	*Chaetomorpha* sp. 3GWS	NextGen Sequencing	Yes	N/A	Low Risk	Watch List	-	8
Ulvophyceae/Cladophorales	Cladophoraceae	-	*Rhizoclonium riparium*	NextGen Sequencing	No	N/A	No Risk	N/A	1, 2, 5, 6, 8, 9	1, 2, 8, 10, 12, 13, 14, 18, 23
Ulvophyceae/Ulotrichales	Ulotrichaceae	-	*Ulothrix flacca*	Macroalgae Collection, NextGen Sequencing	No	N/A	No Risk	N/A	1, 2, 3, 4, 5, 6, 8, 9	1, 2, 5, 9, 10, 11, 12, 13, 14, 15
Ulvophyceae/Ulotrichales	Ulotrichaceae	-	*Ulothrix subflaccida*	NextGen Sequencing	No	N/A	No Risk	N/A	1, 2, 3, 5, 6, 8, 9	2, 10, 13, 14, 23
Ulvophyceae/Ulotrichales	Ulotrichaceae	-	*Ulothrix* sp. 1Nunavut	Macroalgae Collection	No	N/A	No Risk	N/A	-	-
Ulvophyceae/Ulotrichales	Ulotrichaceae	-	*Urospora pencilliformis*	NextGen Sequencing	No	N/A	No Risk	N/A	1, 2, 4, 5, 6, 8, 9	1, 2, 10, 12, 13, 14, 15, 23
Ulvophyceae/Ulvales	Ulvaceae	-	*Ulvaria splendens*	NextGen Sequencing	No	N/A	No Risk	N/A	4, 5, 6	1, 2, 5, 10
Heterokontophyla										
Bacillariophyceae / Naviculales	Berkeleyaceae	-	*Berkeleya* sp.	Macroalgae Collection	No	N/A	No Risk	N/A	1, 3, 5, 8	1, 2, 13, 15, 16, 17, 18, 19
Bacillariophyceae / Naviculales	Berkeleyaceae	-	*Parlibellus* sp.	Macroalgae Collection	No	N/A	No Risk	N/A	2	20
Mollusca										
Cephalopoda/Sepiida	-	-	Sepiolina indet.	Incidentals	No	N/A	No Risk	N/A	1, 2, 3, 4, 5, 6, 7, 8, 9	1, 2, 27, 29, 34
Ochrophyta										
Phaeophyceae/Desmarestiales	Desmarestiaceae	-	*Desmarestia ligulata*	NextGen Sequencing	Yes	N/A	Low Risk	Watch List	-	1, 2
Phaeophyceae/Desmarestiales	Desmarestiaceae	-	*Desmarestia* sp. 1Arctic	Macroalgae Collection, NextGen Sequencing	No	N/A	No Risk	N/A	1	18
Phaeophyceae/Ectocarpales	Acinetosporaceae	-	Acinetosporaceae_gen sp. 1AP2016	NextGen Sequencing	No	N/A	No Risk	N/A	1, 4	6, 18
Phaeophyceae/Ectocarpales	Chordariaceae	-	*Asceoseirophila* sp. 1violodora	Macroalgae Collection	No	N/A	No Risk	N/A	-	-
Phaeophyceae/Ectocarpales	Chordariaceae	-	*Chordaria chordaeformis*	NextGen Sequencing	No	N/A	No Risk	N/A	1, 4, 5, 7	5, 7, 8, 10, 14
Phaeophyceae/Ectocarpales	Chordariaceae	-	*Chordaria flagelliformis*	NextGen Sequencing	No	N/A	No Risk	N/A	1, 2, 3, 4, 5, 6, 8, 9	1, 2, 5, 8, 10, 11, 12, 13, 14, 23
Phaeophyceae/Ectocarpales	Chordariaceae	-	*Elachista* sp. 1Arctic	NextGen Sequencing	No	N/A	No Risk	N/A	5	12
Phaeophyceae/Ectocarpales	Chordariaceae	-	*Litosiphon* sp.1Arctic	Macroalgae Collection	No	N/A	No Risk	N/A	-	-
Phaeophyceae/Ectocarpales	Chordariaceae	-	*Microspongium* sp. 4GWS	NextGen Sequencing	No	N/A	No Risk	N/A	-	6, 8
Phaeophyceae/Ectocarpales	Chordariaceae	-	*Polycerea borealis*	NextGen Sequencing	No	N/A	No Risk	N/A	4	8, 10, 12, 36
Phaeophyceae/Ectocarpales	Chordariaceae	-	*Punctaria sp.*	NextGen Sequencing	No	N/A	No Risk	N/A	1, 2, 3, 4, 5, 6, 8, 9	1, 2, 5, 7, 8, 10, 13, 14, 15, 16, 18,
Phaeophyceae/Ectocarpales	Chordariaceae	-	*Saundersella doloresiae*	NextGen Sequencing	No	N/A	No Risk	N/A	4	10, 12, 36
Phaeophyceae/Ectocarpales	Ectocarpaceae	-	*Ectocarpus* sp.	NextGen Sequencing	No	N/A	No Risk	N/A	1, 3, 4, 5, 6, 8, 9	1, 2, 8, 10, 13, 14, 18, 23
Phaeophyceae/Ectocarpales	Ectocarpaceae	-	*Ectocarpus* sp. 1siliculosis	NextGen Sequencing	No	N/A	No Risk	N/A	4, 5	2, 8
Phaeophyceae/Ectocarpales	Scytosiphonaceae	-	*Petalonia arctica*	NextGen Sequencing	No	N/A	No Risk	N/A	4, 5	8, 10, 12, 36
Phaeophyceae/Ectocarpales	Scytosiphonaceae	-	*Petalonia fascia*	NextGen Sequencing	No	N/A	No Risk	N/A	1, 2, 3, 4, 5, 6, 8, 9	1, 2, 5, 7, 8, 10, 13, 14, 15, 23
Phaeophyceae/Ectocarpales	Scytosiphonaceae	-	*Planosiphon filiformis*	NextGen Sequencing	No	N/A	No Risk	N/A	4, 5	1, 2, 7, 8, 10, 12
Phaeophyceae/Ectocarpales	Scytosiphonaceae	-	*Scytosiphon shibazakiorum*	Macroalgae Collection, NextGen Sequencing	No	N/A	No Risk	N/A	5	10, 12, 21, 22
Phaeophyceae/Ectocarpales	Scytosiphonaceae	-	*Scytosiphon* sp. 1crust	NextGen Sequencing	No	N/A	No Risk	N/A	5	6, 8
Phaeophyceae/Ralfsiales	Ralfsiaceae	-	*Ralfsia* sp.	Macroalgae Collection	No	N/A	No Risk	N/A	1, 2, 3, 4, 5, 6, 8, 9	1, 2, 5, 10, 11, 12, 13, 14, 15, 23
Phaeophyceae/Ralfsiales	Ralfsiaceae	-	*Ralfsia* sp. 1Arctic	NextGen Sequencing	No	N/A	No Risk	N/A	-	-
Phaeophyceae/Sphacelariales	Stypocaulaceae	-	*Protohalopteris radicans*	NextGen Sequencing	No	N/A	No Risk	N/A	4, 5, 6, 8	1, 2, 5, 8, 10, 11, 13, 14, 23
Phaeophyceae/Tilopteridales	Halosiphonaceae	-	*Halosiphon* sp. 2tomentosus	NextGen Sequencing	No	N/A	No Risk	N/A	4, 5	5, 7, 8
Phaeophyceae/Tilopteridales	Phyllariaceae	-	*Saccorhiza dermatodea*	Macroalgae Collection	No	N/A	No Risk	N/A	1, 2, 3, 5, 6, 8, 9	1, 2, 10, 13, 14, 23
Phaeophyceae/Tilopteridales	Tilopteraceae	-	*Haplospora globosa*	NextGen Sequencing	No	N/A	No Risk	N/A	1, 2, 4, 5, 8, 9	1, 2, 5, 7, 8, 10, 13, 16, 23
Phaeophyceae/Tilopteridales	Tilopteraceae	-	Tilopteridalean sp. 2GWS	NextGen Sequencing	No	N/A	No Risk	N/A	1	7, 8
Phaeophyceae/Tilopteridales	Tilopteraceae	-	Tilopteridalean sp. 3GWS	NextGen Sequencing	No	N/A	No Risk	N/A	-	7, 8
Rhodophyta										
Florideophyceae/Acrochaetiales	Acrochaetiaceae	-	*Grania efflorescens*	NextGen Sequencing	No	N/A	No Risk	N/A	1, 2, 3, 5, 6, 8, 9	1, 2, 10, 13, 14, 15, 23
Florideophyceae/Ahnfeltiales	Ahnfeltiaceae	-	*Ahnfeltia plicata*	Offset Habitat Monitoring	No	N/A	No Risk	N/A	1, 2, 4, 5, 8, 9	1, 2, 5, 13, 14, 15, 16, 18, 23
Florideophyceae/Ceramiales	Ceramiaceae	Ceramioideae	*Antithamnion* cf. *sparsum*	NextGen Sequencing	Yes	N/A	Low Risk	Watch List	-	37
Florideophyceae/Ceramiales	Rhodomelaceae	-	*Polysiphonia kapraunii*	NextGen Sequencing	Yes	N/A	Low Risk	Watch List	-	10
Florideophyceae/Ceramiales	Rhodomelaceae	-	*Rhodomela sibirica*	Macroalgae Collection	No	N/A	No Risk	N/A	1, 3, 5	1, 2, 7, 10, 12
Florideophyceae/Corallinales	Lithophyllaceae	Lithophyllaceae	*Titanoderma pustulatum*	NextGen Sequencing	No	N/A	No Risk	N/A	-	1, 2, 12
Florideophyceae/Hapalidiales	Hapalidiaceae	-	*Boreolithothamnion lemioneae*	Macroalgae Collection	No	N/A	No Risk	N/A	1, 4, 9	8, 10, 12, 24
Florideophyceae/Hapalidiales	Hapalidiaceae	-	*Leptophytum foecundum*	Macroalgae Collection	No	N/A	No Risk	N/A	1, 2, 3, 4, 6, 8, 9	1, 2, 7, 10, 13, 18, 23
Florideophyceae/Hapalidiales	Hapalidiaceae	-	*Leptophytum laeve*	Macroalgae Collection	No	N/A	No Risk	N/A	1, 2, 3, 4, 5, 6, 8, 9	1, 2, 10, 13, 23

Notes: Taxa identified to the lowest practical taxonomic level; indet.= indeterminate (taxa which could not be identified beyond the taxonomic level listed); sp.=species.

Ecoregion are delineated in Spalding et al. 2007 and herein refer to 1. Baffin Bay-Davis Strait; 2. Lancaster Sound; 3. High Arctic Archipelago; 4. Northern Labrador; 5. Hudson Complex; 6. West Greenland Shelf; 7. North Greenland Shelf; 8. East Greenland Shelf; 9. Beaufort-Amundson-Viscount Melville-Queen Maud

Taxa distribution references: 1: WoRMS 2025; 2: GBIF 2025; 3: OBIS 2011; 4. Roy et al. 2015;.5: Saunders and McDevit 2013; 6: NLM 2024; 7: Bringloe 2018; 8: BOLD 2025; 9: Charette et al. 2020; 10: Guiry and Guiry 2025; 11: Ellis and Wilce 1961; 12: Saunders 2023; 13: Mathieson et al. 2010; 14: Lund 1959; 15: Wilce and Dunton 2014; 16: Cross et al. 1987; 17: Snow et al. 1987; 18: Küpper et al. 2016; 19: Lobban 1984; 20: Conlan and Kvitek 2005; 21: McDevit and Saunders 2017, 22: Hoshino et al. 2021; 23: Lee 1980; 24: Gabrielson et al. 2023; 25: Donner and Blake 2006; 26: Blake 2022; 27: Miller and Nozares 2024; 28: Goldsmit 2016; 29: Cusson 2018; 30: Chapman and Kostylev 2008; 31: NSC 2006; 32: Goldsmit et al. 2014; 33: Dale and Leontowich 2006; 34: DFO 201925, 35: Blair 1983, 36: Saunders 2024, 37: Brooks and Krumhansl 2023; 38: Tropicus 2025.

All taxa cross-referenced with NIS/AIS resources: Fofonoff et al. 2018, ISSG 2025, Costello et al. 2025, Molnar et al. 2008, Casas-Monroy et al. 2014.

**Paramphitrite birulai* is on the Watch List. Specimens sent to specialist were not able to be resolved and the taxa was left on the Watch List as a precaution. Specimes will be sent again to the specialist if new developments in the taxonomy occur

**Bryophyta indet., cf. *Punctaria latifolia,* and cf. *Stictyosiphon soriferus are* pending verifications from 2022 surveys and were not observed in 2024

APPENDIX 8E-2

Record of Independent Verifications

Original ID	2018 Samples	2018 ID Verification (Lab/Inst. Name)*	2019 Samples	2019 Sample Locations	Sent for Verification (in 2020)	2019 ID Verification (Lab/Inst. Name)	2020 Samples	2020 Sample Locations	Sent for Verification (in 2021)?	2020 ID Verification (Lab/Inst. Name)	2021 Samples	2021 Sample Locations	Sent for Verification (in 2022)	2021 ID Verification (Lab/Inst. Name)
Polydora cornuta	Yes	*Polydora* sp. (Laval)	None				None				None			
Pseudofabricia aberrans	Yes	*Pseudofabricia* sp. nr. *aberrans* (Biologica) *Manayunkia aestruania* (Laval)	Yes	SNW-4, SNE-3 through SNE-5, SNE-8	Yes	*Pseudofabricia* sp. nr. *aberrans* (Biologica) *Fabricia stellaris* (Laval)	Yes	SNW-4, SNE-2, SNE-5, SNE-8 through SNE-11, SNE-13 through SNE-15	Yes	*Pseudofabricia* sp. nr. *aberrans* (Biologica) *Fabricia stellaris* (Laval)	Yes	SNW-3	Yes	Family Fabriciidae (CCDB, Columbia Science) *Pseudofabricia* sp. nr. *aberrans* (EcoAnalysts Inc.)**
Rhodine bitorquata	Yes	*Rhodine loveni* (Biologica) *Rhodine gracilior* (Laval)	Yes				None				None			
Rhodine sp.	Yes		Yes	BNE-8	Yes	*Rhodine* sp.	None				None			
Styelidae indet.	Yes	*Polycarpa fibrosa* (Biologica)	None				Yes		No		Yes		No	
Ammodytes sp.	Yes	*Ammodytes* sp.	None				Yes	Incidental	Yes	*Ammodytes hexapterus* (CCDB)	None			
Eteone spilotus	Yes	*Eteone* sp. (Biologica and Laval) *Eteone longa* (Potential ID from Laval)	Multiple *Eteone* species		No		None				None			
Monocorophium insidosium	Yes	*Monocorophium insidosium* (Biologica) *Crassicorophium bonelli* (Laval)	None				None				None			
Monocorophium sp.	Yes	*Monocorophium sp.* (Biologica) *Crassicorophium bonelli* (Laval)	Yes	SE-2, SE-4, SW-2, SW-6, SNE-7	Yes	*Crassicorophium* sp. (Laval)	None				None			
Mya arenaria *Mya truncata* *Mya* sp.	Yes	*Mya truncata* (Biologica) *Mya* sp. (Biologica) Imparientia (superorder) (Biologica)	None				None				None			
Polycarpa pomaria	Yes	*Polycarpa fibrosa* (Biologica)	None				None				None			
Marenzelleria viridis *Marenzelleria* sp.	No		Yes	SE-2, SW-2,	Yes	*Marenzelleria viridis* (Laval)	Yes	SW-11 through SW-14	Yes	*Marenzelleria viridis* (Laval) *Marenzelleria wireni* , *Marenzelleria arctia*, *Marenzelleria neglecta* (Radashevsky)***	Yes (*Marenzelleria* sp.)	SW-2, SW-3, Centre M Basket	Yes	*Marenzelleria wireni* (Radashevsky)
Sosane sp. nr. *Wireni*	No		Yes	SNE-6,	Yes	*Sosane wireni* (Laval)	Yes	SNW-9, SNE-10, SNE-12	Yes	*Sosane wireni* (Laval)	None			
Oncousoecia sp.	No		Yes	SNE-5	Yes	Tubuliporina (Laval)	None				None			
Euphilomedes sp.	No		Yes	Fish Stomachs	No	*Philomedes* sp. (Biologica)	None				None			
Nereimyra aphroditoides	Former name		Yes	Archive	Yes	*Nereimyra* sp. (Biologica)	Yes		No		Yes		No	
Streptospinigera niuqtuut	Former name		Yes	Archive	Yes	*Streptospinigera niuqtuut* (Biologica)	Yes		No		None			
Harmothoe propinqua	No		None				Yes	SW-6	Yes	*Harmothoe extenuata* (Laval)	None			
Harmothoe viridis	No		None				Yes	SE-11	Yes	*Harmothoe imbricata* (Biologica and Laval)	None			
Hesperonoe sp.	No		None				Yes	SNE-7	Yes	*Hesperonoe* sp. (Biologica) *Bylgides* sp. (Laval)	None			
Ampharete petersenae	No		None				Yes	SW-3, SW-7, SW-10, SW-11, SW-13 through SW-15, SE-5 through SE-13, SE-15, SNW-7	Yes	*Ampharete petersenae* (Laval)	Yes	SE-1, SE-3, SW-4	Yes	*Ampharete petersenae* (Parapar)****
Paramphitrite birulai	No		None				Yes	SW-8, SW-10	Yes	*Amphitrite birulai* (Laval)	Yes	SE-1	Yes	*Paramphitrite birulai* (Parapar)****
Crassicorophium sp.	No		None				None				Yes	SE-3, Centre S Basket 1, Centre M Basket 1	Yes	Inconclusive/ Corophiidae indet. (CCDB) *Crassicorophium clarencense* (Friday Harbor)
Diastyloides biplicatus	No		None				None				Yes	SW-4	Yes	*Diastylis* sp. (Laval)
Tricellaria sp.	No		None				None				Yes	SNE-2	Yes	Candidae indet. (Laval)
Buguloidea indet	No		None				None				None			
Bryophyta indet	No		None				None				None			
cf. *Punctaria latifolia*	No		None				None				None			
cf. *Stictyosiphon soriferus*	No		None				None				None			
Chaetozone anasima	No		None				None				None			

Note: Grey cells indicate no action (i.e., no specimen in samples, therefore none sent for verification)

* Biologica: Biologica Environmental Services; Laval: The Benthic Ecology Lab at Université Laval; CCDB: Canadian Centre for DNA Barcoding at the University of Guelph, Radashevsky: Dr. Vasily Radashevsky of the Russian National Scientific Center of Marine Biology; Parapar: Dr. Julio Parapar, Departamento de Bioloxia, Universidade da Coruna; Friday Harbor: Dr. Craig Staude at Friday Harbour Laboratories at the University of Washington

**EcoAnalysts and Columbia Science examined specimens from 2018 and 2019 collections

*** Radashevsky examined specimens from 2017-2020, no specimens matched *M. viridis* , at least one specimen was conclusively identified as *M. wireni* , a high probability of *M. arctia* was given for specimens from Phillips Creek, other specimens were a high probability of *M. wireni* and/or *M. neglecta*

**** Dr. Parapar concluded that specimens matched the most up to date descriptions for *Ampharete petersenae* and *Paramphitrite birulai* , however the identification was not positive based on missing features and limited taxonomic data for both genera

Original ID	2022 Samples	2022 Sample Locations	Sent for Verification (in 2023)	2022 ID Verification (Lab/Inst. Name)	2023 Samples	2023 Sample Locations	Sent for Verification (in 2024)	2023 ID Verification (Lab/Inst. Name)	2024 Samples	2024 Sample Locations	Sent for Verification (in 2025)	2024 ID Verification (Lab/Inst. Name)
Polydora cornuta	None				None				None			
Pseudofabricia aberrans	*Yes* (*Pseudofabricia* sp.)	SNW-2, SNW-3, SNW-4	No	N/A	*Yes* (*Pseudofabricia* sp. nr. *aberrans*)	SNE-2, SNE-4, SNE-5, SNE-7, SNE-10, SNE-13, SNE-15, SNW-5,	No	N/A	*Yes* (*Pseudofabricia* sp. nr. *aberrans*)	SCV-2	No	N/A
Rhodine bitorquata	None				None				None			
Rhodine sp.	Yes	SW-4	No	N/A	None				None			
Styelidae indet.	None				Yes (Styelidae indet., *Polycarpa fibrosa*	East M Plate, SE-5, SNW-7	No	N/A	None			
Ammodytes sp.	Yes	Incidental	No	N/A	Yes	ZH-02, ZH-03, Fish Stomachs, SW-11	No	N/A	Yes	Zooplankton	No	N/A
Eteone spilotus	None				None				None			
Monocorophium insidosium	None				None				None			
Monocorophium sp.	None				None				None			
Mya arenaria *Mya truncata* *Mya* sp.	Yes	Multiple Stations	No	N/A	Yes	Multiple Stations	No	N/A	Yes (*Mya* sp. and *Mya truncata*)	SCV-2, SE-18-1, SW-2, SW-3, SW-4, Settlement Substrates	No	N/A
Polycarpa pomaria	None				None				None			
Marenzelleria viridis *Marenzelleria* sp.	Yes (*Marenzelleria* sp.)	SW-2, SW-3	No	N/A	Yes (*Marenzelleria* sp.)	SCV-2, SW-11, SW-12	No	N/A	None			
Sosane sp. nr. *Wireni*	None				Yes (*Sosane wireni*)	SNE-9	No	N/A	None			
Oncousoecia sp.	None				None				None			
Euphilomedes sp.	None				None				None			
Nereimyra aphroditoides	None				Yes	Multiple Stations	No	N/A	Yes	SCV-2, SE-18-1, SNW-1, SW-1, SW-2, SW-3, SW-4, Settlement Substrates	No	N/A
Streptospinigera niuqtuut	Yes	SNE-1	No	N/A	Yes	SE18-1	No	N/A	Yes	SW-4	No	N/A
Harmothoe propinqua	Yes	SE-3	No	N/A	None				Yes	Settlement Substrates	No	N/A
Harmothoe viridis	None				None				None			
Hesperonoe sp.	Yes	SE-2, SW-2, SW-3, SW-4, SNW-1	Yes	Pending	Yes	SNE-3, SNE-4	Yes	Pending	None			
Ampharete petersenae	None				Yes	SE-1, SE-11, SE-13, SNW-1, SNW-15, SW-1SW-2, SW-3, SW-5, SW-10, SW-12, SW-13	No	N/A	Yes	SCV-2, SE18-1, SNW-1, SW-4	No	N/A
Paramphitrite birulai	None				Yes	SE-15, SE18-1, SW-1, SW-4, SW-12	No	N/A	Yes	SE18-1, SNW-1	No	N/A
Crassicorophium sp.	Yes (*C. clarenscense*)	SW-1, SW-2	No	N/A	Yes (*Crassicorophium* sp. and *Crassicorophium clarencense*)	West M Plate, SE-15, SW-2, SW-12, SW-13, SW-15	No	N/A	None			
Diastyloides biplicatus	None				None				None			
Tricellaria sp.	None				None				None			
Buguloidea indet	Yes	SW-4	Yes	Pending	None				None			
Bryophyta indet	Yes	Q21	Yes	Pending	None				None			
cf. *Punctaria latifolia*	Yes	Q5 Mutlii-year plate, Q6 Multi-year plate, Q14 Multi-year plate, Centre-S Multi-year plate, West D Annual plate, West-D annual basket	Yes	Pending	None				None			
cf. *Stictyosiphon soriferus*	Yes	West-M Multi-Year Basket	Yes	Pending	None				None			
Chaetozone anasima	None				None				Yes	SCV-1	Yes	Pending

Note: Grey cells indicate no action (i.e., no specimen in samples, therefore none sent for verification)

* Biologica: Biologica Environmental Services; Laval: The Benthic Ecology Lab at Université Laval; CCDB: Canadian Centre for DNA Barcoding at the University of Guelph, Radashevsky: Dr. Vasily Radashevsky of the Russian National Scientific Center of Marine Biology; Parapar: Dr. Julio Parapar, Departamento de Bioloxia, U the University of Washington

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APPENDIX 8E-3

Program Watch List

Program Watch List

Phylum / Class/Order	Family	Subfamily	Taxa	Risk Category	Year Added	Year Removed
Annelida						
Polychaeta/Phyllodocida	Polynoidae	Polynoinae	*Hesperonoe* sp.	Low Risk	2020	N/A
Polychaeta/Sabellida	Fabriciidae	-	*Pseudofabricia* sp. nr. *aberrans*	No Risk	2018	2021
Polychaeta/Spionida	Spionidae	-	*Marenzelleria viridis* (*Marenzelleria* sp.)*	High Risk	2019	N/A
Polychaeta/Terebellida	Ampharetidae	Ampharetinae	*Ampharete petersenae*	No Risk	2020	2021
Polychaeta/Terebellida	Ampharetidae	Ampharetinae	*Sosane wireni*	No Risk	2019	2023
Polychaeta/Terebellida	Cirratulidae	-	*Chaetozone anasima*	Low Risk	2024	N/A
Polychaeta/Terebellida	Terebellidae	-	*Amphitrite birulai/Paramphitrite birulai***	Low Risk	2020	N/A
Arthropoda						
Malacostraca/Amphipoda	Corophiidae	Corophiinae	*Crassicorophium* sp.***	Low Risk	2018**	N/A
Malacostraca/Amphipoda	Corophiidae	Corophiinae	*Monocorophium* sp.***	High Risk	2018**	N/A
Chlorophyta						
Ulvophyceae/Cladophorales	Cladophoraceae	-	*Chaetomorpha* sp. 3GWS	Low Risk	2024	N/A
Chordata						
Actinopterygii/Perciformes	Ammodytidae	-	*Ammodytes hexapterus*	Low Risk	2020	N/A
Ochrophyta						
Phaeophyceae/Desmarestiales	Desmarestiaceae	-	*Desmarestia ligulata*	Low Risk	2024	N/A
Phaeophyceae/Ectocarpales	Chordariaceae	-	*Punctaria latifolia*	Low Risk	2022	N/A
Phaeophyceae/Ectocarpales	Chordariaceae	-	*Stictyosiphon soriferus*	Low Risk	2022	N/A
Rhodophyta						
Florideophyceae/Ceramiales	Ceramiaceae	Ceramioideae	*Antithamnion* cf. *sparsum*	Low Risk	2024	N/A
Florideophyceae/Ceramiales	Rhodomelaceae	-	*Polysiphonia kapraunii*	Low Risk	2024	N/A

**Marenzelleria viridis* and *Marenzelleria* species, other than *M. wireni* and *M. arctia*

** Specimens examined by Dr. Julio Parapar were determined to match the description of *Paramphitrite birulai* , however there is uncertainty in the taxonomic description that indicate that these specimens may be from a related, undescribed genus

*** *Monocorophium* and *Crassicorophium* sp. were previously identified during baseline surveys, but flagged for review in 2018



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