APPENDIX G.3.2

Lake Sedimentation Monitoring Program Report

REPORT

Trinity Consultants
CANADA

Mary River Project – Lake Sedimentation Monitoring Program Report – 2024/2025

PREPARED FOR

Baffinland Iron Mines Corporation
Oakville, Ontario

PREPARED BY

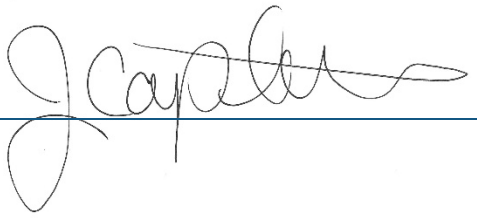
Trinity Consultants Canada
Toronto, Ontario

DATE

March 19, 2026

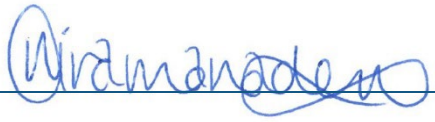
Mary River Project –
Lake Sedimentation Monitoring Program
Report, 2024/2025

Jaime Caplette, Ph.D., G.I.T
Project Manager/Technical Lead



Amy Wiebe, M.Sc., R.P.Bio.
Senior Reviewer

Cheryl Wiramanaden, Ph.D.
Senior Reviewer



EXECUTIVE SUMMARY

The Mary River Project (the "Project"), owned and operated by Baffinland Iron Mines Corporation (Baffinland), is an iron ore mining operation in the Qikiqtani Region of northern Baffin Island, Nunavut. Dust, sediment from erosion and runoff, and increased productivity (e.g., more phytoplankton) may result in increased sedimentation in nearby waterbodies. The Lake Sedimentation Monitoring Program (LSMP) at Sheardown Lake Northwest (NW) began in 2013, as part of Baffinland's Aquatic Effects Monitoring Plan (AEMP). Since the start of LSMP, monitoring of sedimentation has been conducted at three locations within Sheardown Lake NW; two in shallow, nearshore (littoral) habitats and one in a deep (profundal) habitat. One littoral area represents suitable feeding habitat for arctic charr (SHAL-1), and the second littoral area represents habitat for arctic charr spawning and egg incubation (SHAL-2). The profundal (DEEP-1) area is in the deepest part of Sheardown Lake NW and represents conditions where rates of sediment deposition ("sedimentation rates") and sediment accumulation thickness are expected to be highest in Sheardown Lake NW. The purpose of the LSMP is to evaluate whether mining activities at the Project influence sedimentation in Sheardown Lake NW and identify any Project-related influences on arctic charr habitat, including feeding, spawning, and egg incubation areas. This 2024/2025 report summarizes data on sedimentation rates, sediment accumulation thickness estimates, dustfall inputs, sediment chemistry, and benthic invertebrate community (BIC) relationships collected during the 2024/2025 ice cover period and the 2025 open water season.

Sedimentation rates during the 2024/2025 ice cover and the 2025 open water periods were higher than baseline (i.e., pre-mine; 2013/2014) conditions. However, the higher 2025 open water sedimentation rates were due to increased runoff, rainfall, and backflow of turbid water from the Mary River into Sheardown Lake SE and NW, during heavy rainfall events. The SHAL-2 littoral area, which represents a potential arctic charr spawning and egg incubation habitat, showed higher open water sedimentation in 2025, likely reflecting rainfall-driven backflow of turbid water. However, annual sedimentation rates remained similar to reported values for pristine Arctic lakes of similar size and depth.

Sediment accumulation thickness estimates for the 2024/2025 ice cover period were two to three times lower than the lowest threshold that would trigger additional studies, data analysis, or corrective action. In the Final Environmental Impact Statement (FEIS) for the Project (Baffinland 2012), sediment accumulation thickness estimates at or below 1 mm/year were predicted to have a negligible effect on the direct mortality of arctic charr and arctic charr eggs. Sediment accumulation thickness estimates during the combined 2024/2025 ice cover and 2025 open water periods were well below (approximately five to ten times less than) the 1

mm/year prediction in the FEIS at all littoral (SHAL-1 and SHAL-2) and profundal (DEEP-1) monitoring areas in Sheardown Lake NW. These findings indicated that sedimentation during egg incubation and the period when newly hatched arctic charr are still in the substrate is not expected to negatively affect arctic charr reproductive success in Sheardown Lake NW.

A comparison of dustfall measurements with lake sediment data from 2013 to 2025 showed that dustfall was not the main source of sediment accumulating in Sheardown Lake NW. During the open water periods, natural seasonal factors (e.g., heavy rainfall events) are likely to have a stronger influence on sedimentation in Sheardown Lake NW. Sediment chemistry analyses showed elevated concentrations of iron, chromium, and zinc relative to AEMP benchmarks in some sediment trap samples. However, comparisons with surface sediment data collected at the same time under the Core Receiving Environment Monitoring Program (CREMP) showed that concentrations of iron, chromium, and zinc were within applicable benchmarks (protective of the aquatic environment). The results of the 2025 CREMP indicated that there were no mine-related effects from elevated iron, chromium, and/or zinc in sediment in Sheardown Lake NW.

During the 2025 open water period, sedimentation rate and accumulation thickness estimates to BIC health endpoints (density, richness [number of species], or evenness [number of individuals per species]) were not well correlated at the littoral area representing arctic charr spawning habitat (SHAL-2). However, relative proportions of *Chironomidae* larvae (non-biting midges) decreased and *Ostracoda* (seed shrimp) increased with sedimentation rate and accumulation thickness, respectively, at the BIC monitoring station near SHAL-2 (littoral area representing arctic charr spawning habitat) during the 2025 open water period. Monitoring of BIC endpoints at stations (DD-HAB 9-STN2 and DL0-01-8) near the SHAL-1 area (representing Arctic charr feeding habitat) currently do not have enough years of data to allow statistical comparisons. Monitoring of BIC at DD-HAB 9-STN2 and DL0-01-8 will therefore continue, to allow these comparisons in future years. Although sedimentation appears to influence BIC endpoints within the areas examined, arctic charr are mobile and can access preferred food items throughout the broader lake, including Sheardown Lake SE, which is connected to Sheardown Lake NW. A broader annual assessment of lake-wide BIC and arctic charr population status is conducted in the 2025 CREMP.

Overall, the 2024/2025 LSMP results showed minimal evidence of negative mine-related effects from sedimentation rates, sediment accumulation thickness estimates, sediment quality, BIC, and arctic charr egg incubation success in Sheardown Lake NW. Although sedimentation rates and accumulation thickness estimates have increased relative to pre-mine conditions, sedimentation rates are within range of pristine Arctic lakes and sediment

accumulation thickness estimates during the 2024/2025 ice cover period (i.e., arctic charr egg incubation period) are well below the most conservative threshold for further investigation and management.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

ABS – Acrylonitrile-Butadiene-Styrene
AEMP – Aquatic Effects Monitoring Plan
ALS – ALS Environmental
ANOVA – Analysis-of-Variance
BAFFINLAND – Baffinland Iron Mines Corporation
BD – Bulk Density
BIC – Benthic Invertebrate Community
CIRNAC – Crown-Indigenous Relations and Northern Affairs Canada
CREMP – Core Receiving Environment Monitoring Program
CV-AAS – Cold Vapour Atomic Absorption Spectrometer
FEIS – Final Environmental Impact Statement
FFG – Functional Feeding Groups
GPS – Global Positioning System
HSD – Honestly Significant Difference
ICP-MS – Inductively Coupled Plasma Mass Spectrometer
LPL – Lowest Practical Level
LSMP – Lake Sedimentation Monitoring Program
NIRB – Nunavut Impact Review Board
NW – Northwest
The Project – Mary River Project
PSD – Particle Size Distribution
PVC – Polyvinylchloride
QA/QC – Quality Assurance/Quality Control
SE – Southeast
SQG – Sediment Quality Guideline
SRC – Saskatchewan Research Council
TARP – Trigger, Action, Response Plan
TOC – Total Organic Carbon

1 INTRODUCTION

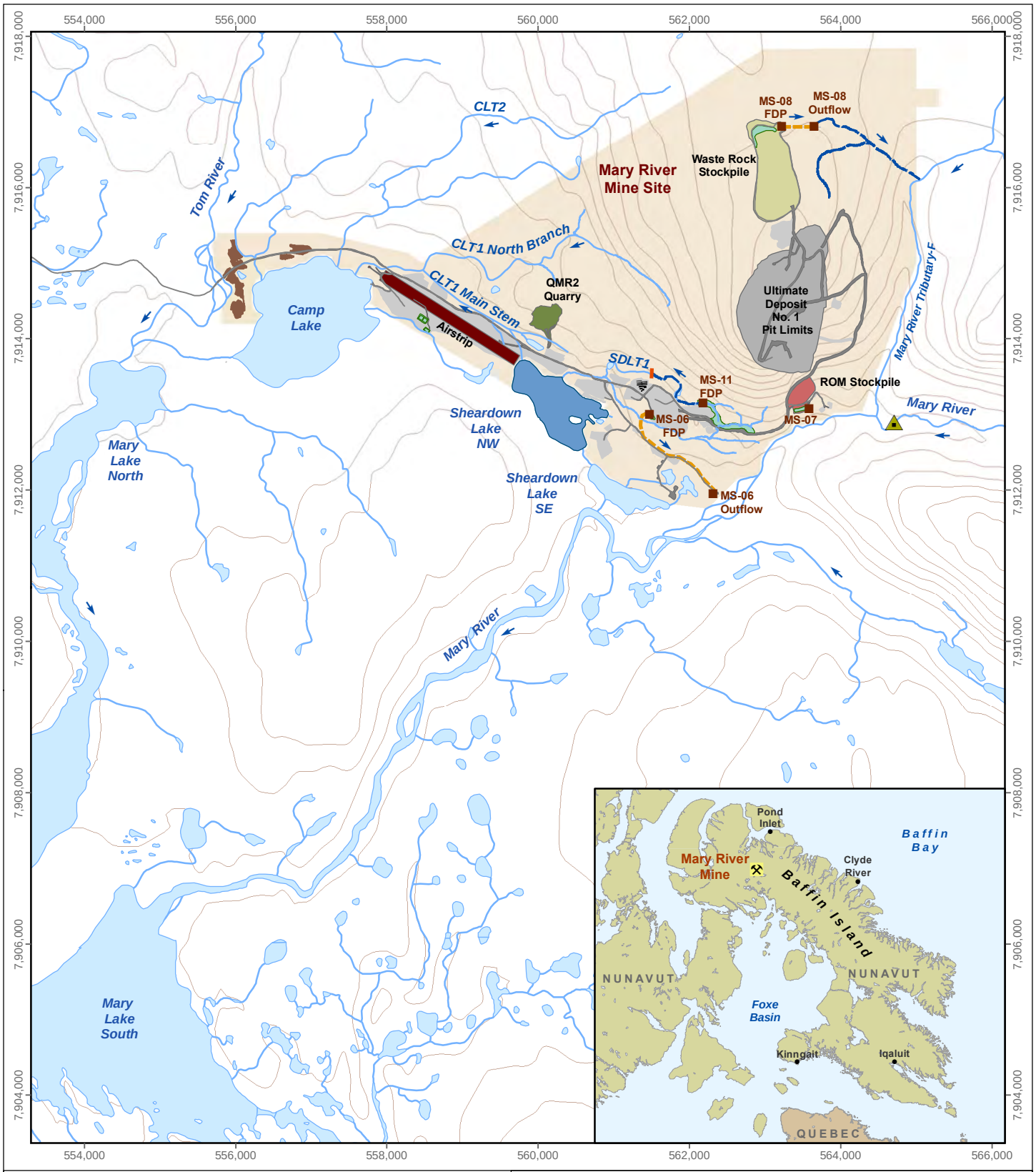
1.1 Background

The Mary River Project (herein referred to as "the Project"), owned and operated by Baffinland Iron Mines Corporation (Baffinland), is a high-grade iron ore mining operation located in the Qikiqtani Region of northern Baffin Island, Nunavut (Figure 1.1). Commercial open-pit mining, including pit bench development, ore haulage, and ore stockpiling, as well as the crushing and screening of high-grade iron ore, commenced at the Project site in 2015. Fugitive dust deposition and surface runoff/erosion from Project activities, and increased biological productivity (e.g., due to treated sewage discharge) have the potential to result in increased sedimentation in nearby waterbodies. In aquatic environments, these deposits may lead to physical habitat alteration (e.g., changes in substrate composition or embeddedness) and/or chemical alteration (e.g., changes in metal, nutrient, and/or organic matter concentrations) that, in turn, could alter biotic assemblages and lead to adverse ecological effects (e.g., physical smothering and reduced survival of organisms residing on/in existing substrate and effects to growth and reproduction of fish, respectively).

The Lake Sedimentation Monitoring Program (LSMP) was included as a special investigation component of the Project's Aquatic Effects Monitoring Plan (AEMP; Baffinland 2015, NSC 2014a) to better understand rates of sediment deposition associated with the Project and the potential implications of this sediment deposition on aquatic biota. The primary concern regarding Project-associated lake sedimentation is the potential for physical effects on arctic charr (*Salvelinus alpinus*) populations resulting from:

- changes to benthic invertebrate community (BIC) structure and/or density resulting from habitat alteration that, in turn, may alter food availability (quantity and/or quality) for arctic charr;
- loss or alteration of spawning habitat for arctic charr resulting from the accumulation of fine materials on and/or surrounding spawning substrates; and
- accumulation of fine material on and/or surrounding the spawning substrates used by arctic charr, which could limit the amount of oxygen available in spawning beds during the overwinter incubation period, thereby resulting in reduced egg hatching success and/or reduced larval survival following hatch (Berry et al. 2003).

The LSMP is a year-round sampling program that was designed to measure the sedimentation rate (i.e., total dry weight of sediment deposited per day) at Sheardown Lake Northwest (NW; DL0-01) separately over ice cover and open water periods (Baffinland 2015,



LEGEND

- Airstrip
- Mine Site Complex
- Pond
- ROM Stockpile
- Road
- Open Pit
- Waste Rock Facility
- Infrastructure
- Borrow Pit
- Quarry
- Mine Site Area
- Sheardown Lake NW
- Final Discharge Point (FDP)
- Mary River Cascade Barrier
- Fish Barrier
- Overland Surface Water Flow
- HDPE Pipe
- Contour (20m)

Note: CLT - Camp Lake Tributary
SDLT - Sheardown Lake Tributary

Sheardown Lake NW, Mary River Mine Site, Baffinland Iron Mines Corporation

0 1.25 2.5 5 km

Map Projection: UTM Zone 17 W NAD 1983

Date: February 2026
Project 257202.5067

Trinity Consultants CANADA

Figure 1.1

Document Path: C:\Users\MLaPalme\Trinity Consultants, Inc\Baffinland Iron Mines - 257202.5067 - 2025 AEMP\D - GIS\Lake Sedimentation\25-5067 Figure 1.1 Mary River Mine Site Location.mxd

NSC 2014a,b, NSC 2015, Minnow 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024a). Relative to other waterbodies near the Project, Sheardown Lake NW is expected to receive the highest particulate inputs (through dust deposition and site runoff) and was therefore selected for lake sedimentation monitoring (Figure 1.1; NSC 2014b).

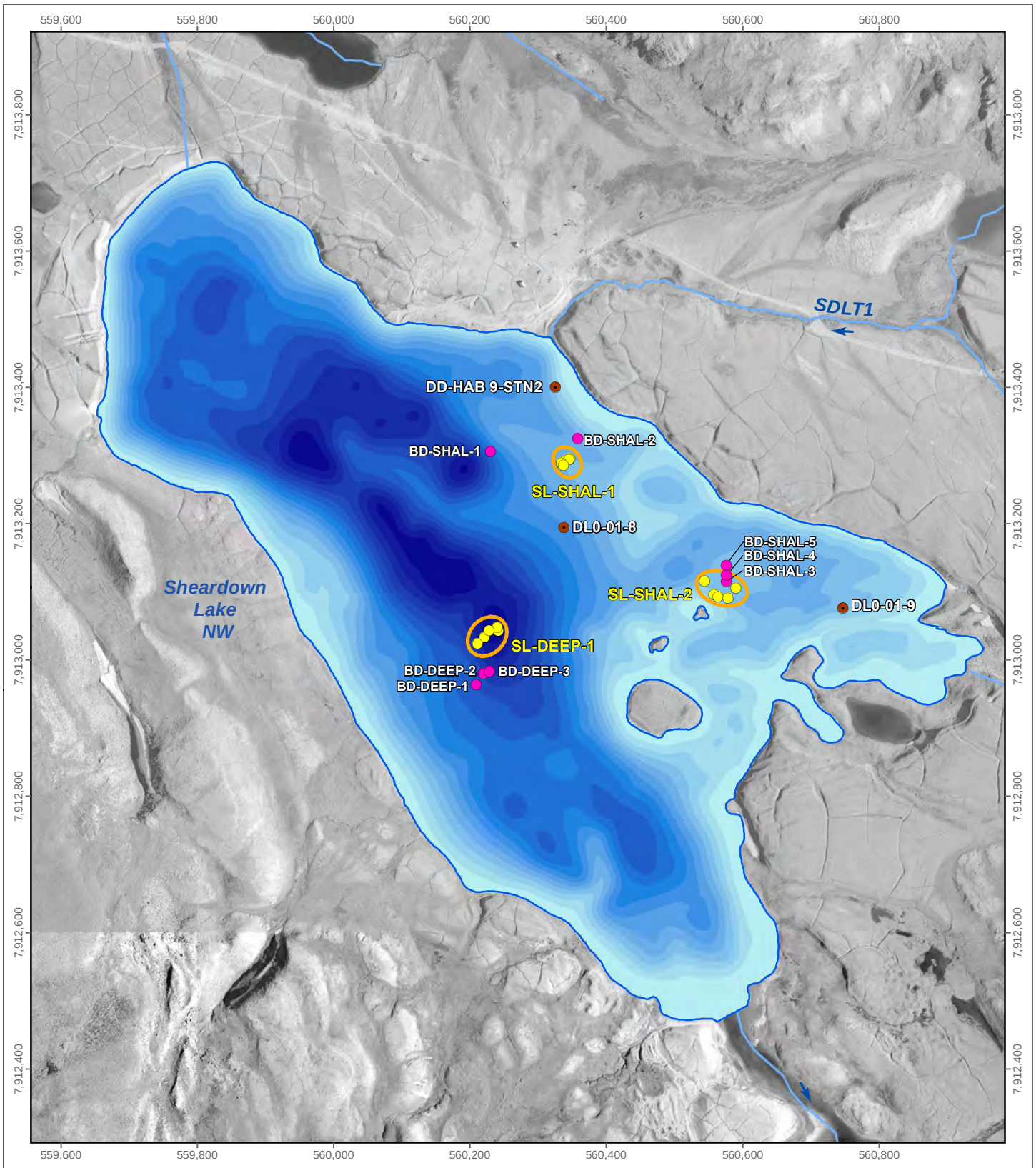
1.2 Program Overview

Sedimentation monitoring was initiated at Sheardown Lake NW in 2013; data collected from fall 2013 to fall 2014 represent one full ice cover period (September/October to June/July) and one full open water period (June/July to September/October). These data were collected to form the baseline for the annual evaluation of potential effects from Project activities to lake sedimentation (Minnow 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024a, 2025).

Sedimentation studies at Sheardown Lake NW have been used to estimate sedimentation rate and derive sediment accumulation thickness estimates during ice cover and open water periods (Baffinland 2015, NSC 2014a,b, NSC 2015, Minnow 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024a). Monitoring of sedimentation rate ($mg/cm^2/day$) has been conducted using consistent monitoring locations, sampling equipment, and approach since 2013 (Figure 1.2; Minnow 2024a). Sediment accumulation thickness estimates were calculated starting in winter 2014/2015. Beginning in 2017/2018, the study design was modified to include methods for the direct collection of bulk density (BD) information from deposited sediment, in an effort to improve sediment accumulation thickness estimates (Minnow 2019, 2020, 2021, 2022, 2023, 2024a).

During review of the LSMP report in 2022, the Nunavut Impact Review Board (NIRB) requested a quantitative comparison between sedimentation rates observed at Sheardown Lake NW and dustfall deposition. Subsequently, an evaluation of the potential influence of aerial dustfall was integrated into the LSMP starting in 2022/2023 (refer to Section 2.2.4; Minnow 2024a, 2025). In the Final Environmental Impact Statement (FEIS) for the Project (Volume 7; Baffinland 2012), it was predicted that Sheardown Lake NW would receive 2.1×10^9 g of dust annually from direct aerial dustfall and surface runoff during mining operations.

During review of the LSMP report in 2023, Crown Indigenous Relations and Northern Affairs Canada (CIRNAC) recommended Baffinland 1) characterize the chemical composition of dustfall entering Sheardown Lake NW, and 2) discuss implications for BIC and arctic charr stemming from sediment accumulation at the silt-loam habitat in Sheardown Lake NW over the period of mine operations. In 2023, Baffinland committed to investigating correlations between dustfall and sediment trap chemistry; dustfall chemistry data collected for the 2022/2023, 2023/2024, and 2024/2025 Mary River Terrestrial Environment Annual Monitoring Project were



LEGEND

- Benthic Invertebrate Community Monitoring Station
- Bulk Density Replicate Station
- Sedimentation Rate Replicate Station
- Sedimentation Rate and Accumulation Thickness Estimate Monitoring Area

Bathymetry (m)

0- 2	6 - 8	14 - 16	22 - 24
2 - 4	8 - 10	16 - 18	24 - 26
4 - 6	10 - 12	18 - 20	26 - 28
	12 - 14	20 - 22	28 - 30

Note: SDLT - Sheardown Lake Tributary

Lake Sedimentation and Benthic Invertebrate Community Monitoring Stations, Sheardown Lake NW, 2024-2025

0 125 250 500 Meters

Map Projection: UTM Zone 17N NAD 1983

Date: February 2026
Project 257202.5067

Trinity Consultants CANADA

Figure 1.2

Document Path: C:\Users\MLaPalme\Trinity Consultants, Inc\Baffinland Iron Mines - 257202.5067 - 2025 AEMP\D - GIS\Lake Sedimentation\25-5067 Figure 1.2 Sheardown Lake NW Lake Sedimentation Monitoring Locations.mxd

qualitatively compared to sediment trap chemistry data (when available[1]). The second request was addressed using data for BIC samples collected annually in August as part of the Mary River Project Core Receiving Environmental Monitoring Program (CREMP; Baffinland 2015). Specifically, correlation analyses were completed between BIC endpoints (e.g., density, richness, Simpson's Evenness, dominant taxonomic groups, and functional feeding groups [FFGs]) and sedimentation rate and accumulation thickness data (see Sections 2.2.5 and 2.3.3 for further details). Results from the BIC and sedimentation endpoint assessment are presented in this report, whereas the broader interpretation of these findings is provided in the 2025 CREMP report (TCC 2026 in prep.).

1.3 Objectives of the Lake Sedimentation Monitoring Program

The main objectives of the LSMP conducted at Sheardown Lake NW are (Baffinland 2024):

1) To evaluate and track potential changes in sedimentation rates and sediment accumulation thickness estimates for particulate matter originating from dustfall or other sources of suspended particulates (e.g., erosion) during the ice cover and open water periods. These changes are assessed relative to baseline conditions (2013 and 2014) and consider data during mine operation (2015 to 2025).

2) To assess sediment accumulation thickness estimates against Trigger, Action, Response Plan (TARP) thresholds that are derived from natural sedimentation rates and values reported to adversely affect salmonid egg survival during the ice cover period (refer to Section 2.3.1).

The following sections describe the current methodology for selecting monitoring areas, collection of field data, laboratory analyses, and data analyses (i.e., to evaluate sedimentation rate, sediment accumulation thickness estimates, sediment chemistry, and BIC endpoints). This report presents the results of the 2024 to 2025 LSMP, including the evaluation of potential Project-related influences on sedimentation at Sheardown Lake NW in the eleventh year following the commencement of commercial mine operation in 2015.

[1] Incorporation of sediment trap chemical analysis into the LSMP report is dependent on the mass of sediment material collected during the ice cover and open water monitoring periods.

2 METHODS

2.1 Areas

In 2024/2025, sedimentation was monitored at the same three annual monitoring areas established at Sheardown Lake NW during the initial 2013/2014 baseline study (Figure 1.2, Table 2.1). The initial selection of monitoring areas in 2013 accounted for dominant benthic habitat types present in the lake as well as habitats considered important for supporting the resident arctic charr population. These considerations resulted in the establishment of Shallow Depositional (SL-SHAL-1), Shallow Hard-bottom (SL-SHAL-2), and Deep Profundal (SL-DEEP-1) areas for sedimentation monitoring, based on the following rationale:

1. Shallow Depositional Area (SL-SHAL-1): Silt-loam represents the dominant substrate type in Sheardown Lake NW. Therefore, increased sedimentation in habitats with this substrate type has the greatest potential to affect overall benthic invertebrate density (i.e., productivity) and/or community composition within the lake. In turn, sedimentation-related changes to productivity and/or BIC composition (i.e., food resources) can affect the arctic charr population of Sheardown Lake NW. For these reasons, and to represent a potentially high sediment deposition habitat, SL-SHAL-1 (referred to as SHAL-1 in the text hereafter) was established within silt substrate in the lake's littoral zone[2] at approximately 10 metre (m) depth. Additionally, because SHAL-1 is located near the outlet from Sheardown Lake Tributary 1 (SDLT1; Figure 1.2), information acquired from this area also evaluates the extent to which sediment releases from key tributaries affect sedimentation at Sheardown Lake NW.

2. Shallow Hard-bottom Area (SL-SHAL-2): Increased sedimentation at hard-bottom areas could reduce the amount of habitat available to arctic charr for spawning and/or reduce arctic charr egg hatch/reproductive success. Therefore, SL-SHAL-2 (referred to as SHAL-2 hereafter) was established on coarse substrate (i.e., gravel and cobble) in the lake's littoral zone at approximately 6 m depth, within an area considered to provide suitable spawning and egg incubation habitat for arctic charr.

3. Deep Profundal Area (SL-DEEP-1): The profundal area[2] is the ultimate depositional area within lakes and the highest sediment deposition rate is expected to occur at the deepest point within the main basin of a lake. Monitoring area SL-DEEP-1 (referred to

[2] In the AEMP, areas with water depths between 2 and 12 m deep are classified as "littoral", whereas habitats with depths >12 m are classified as "profundal" (Baffinland 2015, 2024).

Table 2.1: Sedimentation Rate and Dry Bulk Density Trap Replicate Station Coordinates, Habitat Information, and Deployment and Retrieval Information, Sheardown Lake Northwest (NW) Sedimentation Monitoring Study, 2024/2025

Area	Station	Original Set Location (UTM; NAD83; Zone 17W)		Substrate	Ice Cover Period (2024 to 2025)			Open Water Period (2025)		
		Easting	Northing		Date Deployed	Date Retrieved	Set Duration (days)	Date Deployed	Date Retrieved	Set Duration (days)
Shallow 1 (SL-SHAL-1)	SL-SHAL-1A	560340	7913292	silt	5-Oct-24	6-Jul-25	274	6-Jul-25	25-Sep-25	81
	SL-SHAL-1B	560347	7913295	silt	5-Oct-24	5-Jul-25	273	5-Jul-25	25-Sep-25	82
	SL-SHAL-1C	560346	7913294	silt	5-Oct-24	8-Jul-25	276	8-Jul-25	25-Sep-25	79
	SL-SHAL-1D	560334	7913289	silt	5-Oct-24	5-Jul-25	273	5-Jul-25	25-Sep-25	82
	SL-SHAL-1E	560337	7913285	silt	5-Oct-24	8-Jul-25	276	9-Jul-25	25-Sep-25	78
Shallow 2 (SL-SHAL-2)	SL-SHAL-2A	560558	7913096	cobble	7-Oct-24	5-Jul-25	271	5-Jul-25	25-Sep-25	82
	SL-SHAL-2B	560564	7913093	cobble	5-Oct-24	7-Jul-25	275	7-Jul-25	25-Sep-25	80
	SL-SHAL-2C	560579	7913091	cobble	5-Oct-24	-	-	5-Jul-25	25-Sep-25	82
	SL-SHAL-2C-HIS	560579	7913092	cobble	19-Sep-23	5-Jul-25	655	-	-	-
	SL-SHAL-2D	560544	7913116	cobble	5-Oct-24	7-Jul-25	275	7-Jul-25	26-Sep-25	81
	SL-SHAL-2E	560590	7913106	cobble	5-Oct-24	5-Jul-25	273	5-Jul-25	26-Sep-25	83
Deep 1 (SL-DEEP-1)	SL-DEEP-1A	560242	7913042	silt	7-Oct-24	7-Jul-25	273	7-Jul-25	25-Sep-25	80
	SL-DEEP-1B	560240	7913048	silt	7-Oct-24	7-Jul-25	273	7-Jul-25	25-Sep-25	80
	SL-DEEP-1C	560222	7913033	silt	7-Oct-24	5-Jul-25	271	5-Jul-25	25-Sep-25	82
	SL-DEEP-1C-HIS	560235	7913051	silt	10-Jul-24	5-Jul-25	360	-	-	-
	SL-DEEP-1D	560211	7913024	silt	7-Oct-24	8-Jul-25	274	8-Jul-25	25-Sep-25	79
	SL-DEEP-1E	560228	7913043	silt	7-Oct-24	9-Jul-25	275	8-Jul-25	25-Sep-25	79
Bulk Density	BD-SHAL-1	560583	7913137	silt	5-Oct-24	7-Jul-25	275	7-Jul-25	26-Sep-25	81
	BD-SHAL-2	560570	7913136	silt	5-Oct-24	7-Jul-25	275	8-Jul-25	25-Sep-25	79
	BD-SHAL-3	560350	7913321	silt	5-Oct-24	7-Jul-25	275	7-Jul-25	25-Sep-25	80
	BD-SHAL-4	560352	7913306	silt	5-Oct-24	8-Jul-25	276	8-Jul-25	25-Sep-25	79
	BD-SHAL-5	560568	7913153	silt	7-Oct-24	8-Jul-25	274	8-Jul-25	26-Sep-25	80
	BD-DEEP-1	560210	7912963	silt	7-Oct-24	6-Jul-25	272	6-Jul-25	25-Sep-25	81
	BD-DEEP-2	560220	7912979	silt	7-Oct-24	7-Jul-25	273	7-Jul-25	25-Sep-25	80
	BD-DEEP-3-HIS	560220	7912979	silt	18-Sep-23	8-Jul-25	659	-	-	-
	BD-DEEP-3	560229	7912983	silt	-	-	-	8-Jul-25	25-Sep-25	79

Notes: UTM = Universal Transverse Mercator Coordinates. NAD = North American Datum.- = sediment trap not recovered or deployed. "HIS" = a trap was deployed for longer than one deployment period and excluded from analysis.

4. as DEEP-1 hereafter) was established on silt substrate within the profundal zone of the main lake basin (at approximately 25 m deep) to provide an estimate of maximum sedimentation for Sheardown Lake NW.

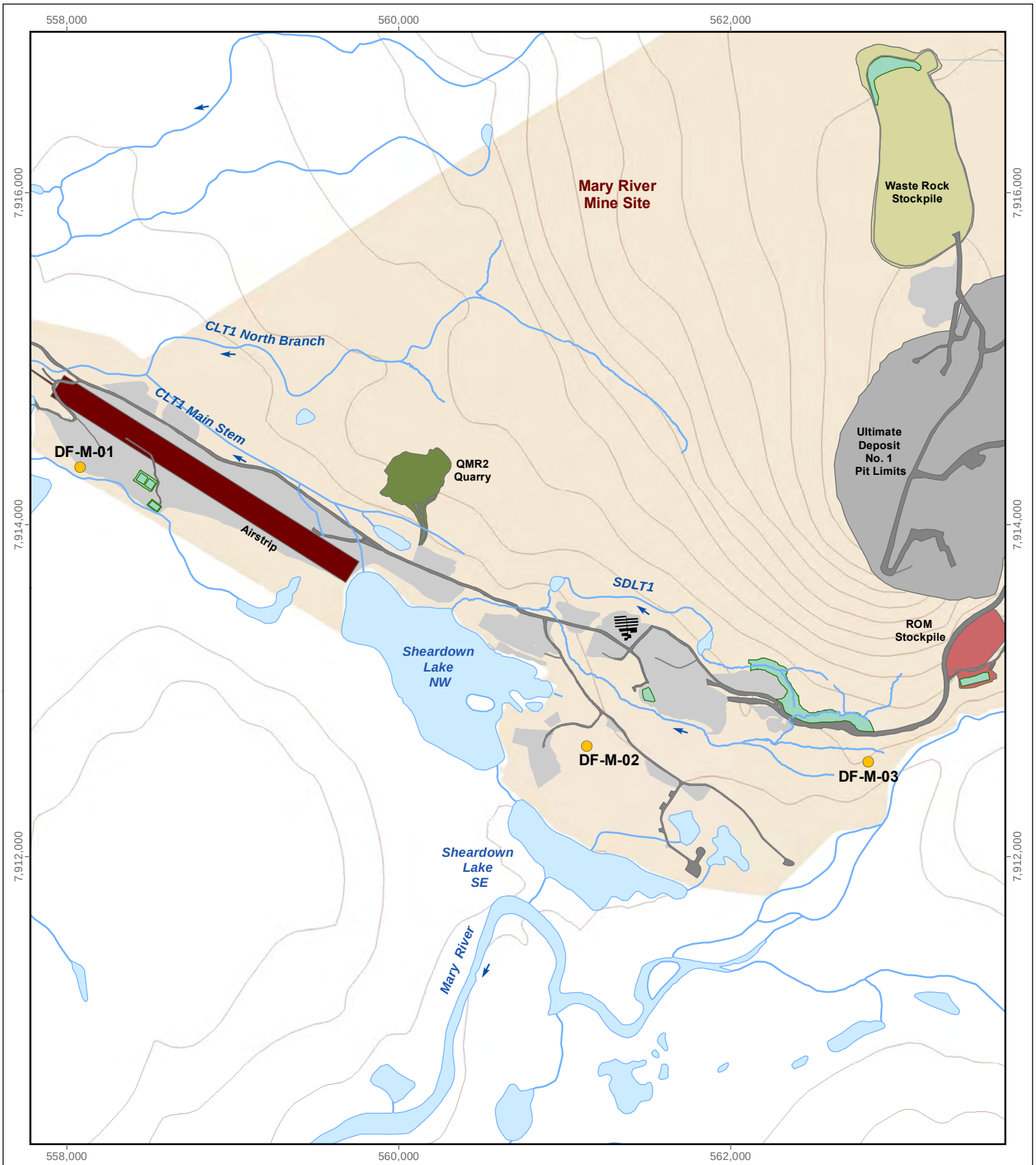
Baffinland has conducted passive dustfall monitoring at the Project site since 2013 as part of the Terrestrial Environment Annual Monitoring Project (EDI 2025). Three passive dustfall monitoring stations (Stations DF-M-01, DF-M-02, and DF-M-03) located near Sheardown Lake NW, and within the prevailing wind direction, were selected to support the assessment of potential influence from aerial dustfall deposition on sedimentation rates and sediment chemistry in Sheardown Lake NW (Figure 2.1). Additionally, to support the investigation of the relationship between sedimentation rates/accumulation thickness estimates and BIC endpoints in Sheardown Lake NW, three of the five BIC monitoring stations from the CREMP (Stations DL0-01-8, DL0-01-9, and DD-HAB 9-STN2) were paired with the two shallow/littoral sedimentation monitoring areas in Sheardown Lake NW (i.e., SHAL-1 and SHAL-2; Table 2.2, Figure 1.2). Following implementation of the Revision 2 AEMP study design, starting in spring 2025, profundal BIC sampling in Sheardown Lake NW was discontinued (i.e., no 2025 BIC data are available to pair with DEEP-1).[3]

2.2 Field and Laboratory Methods

2.2.1 Sedimentation Rate

Sediment traps were used to monitor sedimentation rates at Sheardown Lake NW during the 2024/2025 ice cover and 2025 open water periods; monitoring was completed by Baffinland staff. Sediment traps were constructed using the same materials and dimensions as those deployed annually since the initial study in 2013. Specifically, each sediment trap was constructed of three 50-centimetre (cm) long, 5-cm internal diameter polyvinylchloride (PVC) pipes (i.e., 58.9 cm^2 surface area) sealed at the bottom and clamped together to create a single trap unit. The sediment traps were designed to provide an aspect ratio of approximately 10:1, which meets the ≥ 5:1 aspect ratio generally recommended for cylindrical sediment traps to effectively monitor sediment deposition (Mudroch and MacKnight 1994). Each sediment trap unit was secured to a float-anchor system designed to maintain the trap in an upright position on the lake bottom for the duration of each deployment period. Under this system, the mouth of the sediment trap unit was situated approximately 1.5 m above the substrate.

[3] Although no comparisons of profundal BIC endpoints and sedimentation data for DEEP-1 were completed as part of this report, a fulsome assessment using existing profundal BIC and sedimentation data is provided in the annual LSMP report for the 2023/2024 ice cover and 2024 open water periods (Minnow 2025).



LEGEND

- Dustfall Monitoring Location
- Airstrip
- Mine Site Complex
- Pond
- ROM Stockpile
- Road
- Open Pit
- Waste Rock Facility
- Borrow Pit
- Quarry
- Infrastructure
- Project Development Area
- Contour (20m)

Note: SDLT - Sheardown Lake Tributary
CLT - Camp Lake Tributary

Sheardown Lake NW Dustfall Monitoring Locations, 2024-2025

0 0.5 1 2 km

Map Projection: UTM Zone 17 W NAD 1983

N W E S

Date: February 2026
Project 257202.5067

Trinity Consultants CANADA

Figure 2.1

Document Path: C:\Users\MLaPalme\Trinity Consultants, Inc\Baffinland Iron Mines - 257202.5067 - 2025 AEMP\D - GIS\Lake Sedimentation\25-067 Figure 2.2 Sheardown Lake NW Lake Dust Fall Monitoring Locations, 2023-2024.mxd

Table 2.2: Benthic Invertebrate Community Monitoring Stations and Coordinates Used in the Lake Sedimentation Monitoring Program, 2025

Waterbody	Station Code	UTM Zone 17N, NAD83		Sampling Habitat
		Easting	Northing	
Sheardown Lake Northwest (NW; DL0-01)	DD-HAB 9-STN2	560325	7913400	littoral
	DL0-01-8	560338	7913194	littoral
	DL0-01-9	560747	7913076	littoral

Notes: UTM = Universal Transverse Mercator. NAD = North American Datum.

Sedimentation was assessed separately for ice cover and open water periods at Sheardown Lake NW. The seasonal timing of ice breakup and freeze-up at Sheardown Lake NW generally corresponds to mid-July and mid-September, respectively. For the 2024/2025 ice cover period, five sediment traps were deployed, over two days, at each of the three Sheardown Lake NW study areas (October 5th to 7h, 2024; Table 2.1). Sediment traps deployed over the ice cover period were individually fitted with a marker buoy and lowered to the bottom of the lake such that the marker buoy was submerged approximately 2 to 3 m below the water surface (i.e., to avoid entrapment of the buoy by ice during winter).

Sediment traps for the 2024/2025 ice cover period were retrieved from July 5th to July 9th, 2025 (271- to 276-day deployment duration, excluding the exceptions noted below; Table 2.1). Marker buoys were submerged and therefore required the use of a grappling tool to secure the marker buoy and retrieve the sediment trap at the time of collection. One of the 15 sediment traps deployed in October 2025 (Station SHAL-2C) was not located in July 2025, presumably due to the entrapment of the marker buoy by ice and subsequent relocation of the trap (Table 2.1). Two sediment traps, DEEP-1C-HIS and SHAL-2C-HIS, deployed in July and September 2024, respectively, were retrieved in October 2025 and were excluded from the data analysis (Table 2.1).

Sediment traps for the open water period were deployed from July 5th to 9th, 2025 and were retrieved from September 25th to 26th, 2025 (78- to 83- day deployment duration; Table 2.1). For the open water period, 15 traps were lowered to the lake bottom on individual lines fitted with a surface marker buoy so that they could be seen from the lake surface.

Global Positioning System (GPS) coordinates were recorded for all sediment traps at the time of deployment.

To retrieve each sediment trap, the entire unit was pulled to the surface very slowly to prevent sediment re-suspension in, and/or sediment loss from, each sediment trap. All contents of the trap, including all water and deposited sediment, were transferred into a 20 litre (L) plastic container pre-labelled with station identification and collection date information. Ambient water was used to rinse sediment from each sediment trap, applied as a pressurized spray, as appropriate. Residual material in each sediment trap was removed using a plastic spatula and/or a pressurized stream of water and then discarded. Upon complete removal of all material within the sediment trap, each sediment trap was redeployed at its approximate retrieval location. Following collection of all sediment from individual traps, the sample containers were sealed and stored upright on-site in a refrigerator at 4ºC until submission to the analytical laboratory. The lake sediment samples were shipped to ALS Environmental (ALS; Winnipeg, MB) for analysis of the sediment total dry weight and chemical characterization.

At the laboratory, the sedimentation samples were filtered through a pre-weighed 0.70 micrometre (µm) glass fiber filter. The filter apparatus and container were rinsed three times to ensure complete removal of all sediment. The filter and residual sample material were dried at 105°C for two hours, allowed to cool for one hour, and then weighed to the nearest milligram using an electronic balance with a draft shield.

2.2.2 Sediment Accumulation Thickness Estimates, Bulk Density, and Particle Size Distribution

Sediment BD information was collected to support sediment accumulation thickness estimates separately for the 2024/2025 ice cover and 2025 open water periods. The original sediment trap configuration (2013 to 2017) did not produce sufficient sample volume for BD analysis; therefore, sediment traps used for BD were subsequently modified to have larger dimensions than those used for the collection of sedimentation rate data (Section 2.2.1). The BD sediment traps were constructed of a single 75 cm long, 15.2 cm internal diameter acrylonitrile-butadiene-styrene (ABS) pipe (182 cm^2 surface area) that was capped at the bottom end.[4] Each BD sediment trap was secured to a float-anchor system designed to maintain the trap in an upright position on the lake bottom for the duration of the deployment period. The mouth of the BD sediment trap was designed to sit approximately 1.5 m above the substrate, to match the sedimentation rate traps.

[4] The resulting BD sediment traps had an aspect ratio of 5:1, meeting the recommended aspect ratio for cylindrical sediment traps to effectively monitor sediment deposition (Mudroch and MacKnight 1994).

The BD sediment traps for the 2024/2025 ice cover period were deployed on October 5th and 7th, 2024 and retrieved between July 6th and 8th 2025 (273- to 275-day deployment duration, excluding the exception noted below; Table 2.1). One BD sediment trap (BD-DEEP-3-HIS) deployed on September 18th, 2023 was retrieved on July 8th, 2025 and was not included in the data analysis (Table 2.1). Similar to the sediment traps deployed for sedimentation rate determination, BD sediment traps deployed over the ice cover period were individually fitted with a marker buoy that was submerged approximately 2 to 3 m below the water surface to avoid entrapment of the buoy by ice during winter. This configuration required the use of a grappling tool for trap retrieval.

The BD sediment traps for the open water period were deployed between July 6th and 8th, 2025 and retrieved between September 25th and 26th, 2025 (79- to 81-day deployment duration; Table 2.1). The BD sediment traps were lowered to the lake floor on individual lines fitted with a surface marker buoy so that they could be seen from the lake surface. Additionally, GPS coordinates were taken at each BD sediment trap location during deployment. All BD traps deployed in July 2025 were retrieved in September 2025 (Table 2.1).

The retrieval process involved pulling each BD sediment trap to the surface very slowly to prevent sediment re-suspension and/or sediment loss. The entire contents of the trap, including all water and deposited sediment, were transferred into a 4 L plastic container pre-labelled with the replicate station identification code. Residual material in each BD sediment trap was removed using a plastic spatula and/or a pressurized stream of water and then discarded. The BD samples were transported to an on-site laboratory and left undisturbed for approximately 48 hours to allow the sediment to settle. After 48 hours, the overlying water was siphoned and/or pipetted out, and the sediment was then transferred into a 50 millilitre (mL) glass collection jar.

To provide sufficient sample volume for BD analysis, BD samples collected from each monitoring area during the 2024/2025 ice cover period and 2025 open water period were combined to create three composite samples (i.e., BD-SHAL-A, BD-SHAL-B, and BD-DEEP). Each composite sample represents the two shallow littoral areas and one profundal area. The BD traps labelled BD-SHAL-1 and BD-SHAL-2 (composited to create sample BD-SHAL-A) corresponded to the SHAL-1 sediment monitoring area, and bulk density stations BD-SHAL-3, BD-SHAL-4, and BD-SHAL-5 (composited to create sample BD-SHAL-B) corresponded to the SHAL-2 sediment monitoring area (Figure 1.2). The BD traps labelled BD-DEEP-1, BD-DEEP-2, and BD-DEEP-3 (composited to create sample BD-DEEP) corresponded to the profundal DEEP-1 sediment monitoring area (Figure 1.2).

Following the collection of all sediment, sample containers were sealed and stored on-site in an upright position in a refrigerator at 4ºC until submission to the Saskatchewan Research Council

(SRC; Saskatoon, SK). At SRC, the analysis of BD was conducted using the pycnometer method[5].

After BD analysis, an aliquot of sediment was collected from each BD sample and submitted for particle size distribution (PSD) analysis. The sediment was analyzed by SRC (Saskatoon, SK) using a Microtrac Series 5000 (laser diffraction instrument) before and after ashing the sample at 550°C. The particle range analyzed was between 0.5 µm to 350 µm. Glass beads were analyzed for quality assurance/quality control (QA/QC).

2.2.3 Sediment Trap Chemistry

Sediment trap chemistry was incorporated into the LSMP in 2023/2024. Sediment trap material collected by Baffinland staff during the 2024/2025 ice cover and 2025 open water periods was submitted to ALS (Winnipeg, MB) for analysis of sample dry mass by gravimetry. Sediment material was collected on filters (Whatman Glass fiber 934-AH filters) and dried at 105°C. After filtration, drying, and weighing, the filters were sent to ALS in Waterloo, ON and sediment (approximately one gram) was scraped from the filter for digestion and analysis of total organic carbon (TOC), organic matter content, and metal concentrations. Total organic carbon was determined by wet oxidation digestion and the oxidized carbon content was determined by back-titration. Organic matter content was estimated from the TOC content using a Van Bemmelon factor. Blank filters were digested as method blanks. Sediment material that was less than 2 mm in size was digested using a mixture of nitric and hydrochloric acids. The selected sediment digestion procedure was consistent with the digestion procedure for dustfall material (Section 2.2.4). All metals were analyzed using an inductively coupled plasma mass spectrometer (ICP-MS), except mercury, which was analyzed using cold vapour atomic absorption spectroscopy (CV-AAS).

2.2.4 Dustfall Collection

The Terrestrial Environment Annual Monitoring Project monitors passive dustfall at 43 stations in and around the Project (EDI 2025). Three passive dustfall monitoring stations (Stations DF-M-01, DF-M-02, and DF-M-03; Figure 2.1) located near Sheardown Lake NW and within the prevailing wind direction (northwest and southeast axis) were incorporated into the lake sediment monitoring program to support interpretation of lake sedimentation data and sediment trap chemistry. A comparison of data from these dustfall monitoring stations and sediment trap data from

[5] The pycnometer method uses volume displacement to determine bulk density (see Appendix D for a summary of the laboratory method used).

Sheardown Lake NW offers insight into whether dust deposition rates during the ice cover[6] and/or open water periods influence seasonal sedimentation rates, accumulation thickness estimates, and potentially sediment trap chemistry. Based on the proximity of the three dustfall monitoring stations to Sheardown Lake NW (Figures 1.2 and 2.1), it was expected that historical and current data from these monitoring stations would be sufficient for a comparison between the two datasets.

Dustfall material collected monthly as part of the Terrestrial Environment Annual Monitoring Project was suspended in a liquid (isopropyl alcohol or algaecide), and then submitted to ALS (Waterloo, ON) for digestion. Dustfall material was digested at the analytical laboratory using a mixture of nitric and hydrochloric acids and then analyzed for total suspended particulates, metals by ICP-MS, and total mercury by CV-AAS (EDI 2025, Hawthorne 2024).

2.2.5 Benthic Invertebrate Community

Benthic invertebrate community samples are collected annually in August at five[7] established stations in Sheardown Lake NW as part of the CREMP; data from three of these monitoring stations (located proximal to the sediment trap monitoring areas) were used for this study and are presented herein (Section 2.3.3; Baffinland 2015, 2024). One of these four stations (DL0-01-8) was incorporated into the CREMP for the first time in 2024 (Table 2.2), to support collection of BIC data from an area that is monitored for potential changes in sedimentation rate. No BIC samples were collected from historical monitoring Stations DL0-01-2, DL0-01-4, or DL0-01-12 in 2025 following implementation of AEMP Study Design Revision 2, which removed profundal BIC monitoring in the Sheardown Lake NW (Baffinland 2024).

Benthic invertebrate community sampling was conducted using a Petite Ponar grab sampler (15.24 x 15.24 cm; 0.023 m^2 sampling area) and targeted areas of the lake with predominantly soft silt-sand, silt, and/or clay substrates. Successful recovery of a complete Petite Ponar grab sample (i.e., such that surface material is collected and the sampler is full to each edge) is influenced by substrate particle sizes. Specifically, coarser substrates (e.g., pebbles and cobbles) often prevent the sampler from closing, resulting in loss of material or incomplete/unsuccessful grabs. Therefore, identified BIC stations typically have softer/finer substrates like sand, silt, and clay compared to the lake sedimentation monitoring stations

[6] Although ice coverage limits the direct input of dust, dustfall material may become entrapped in and/or deposited on ice and snow and may enter the lake during spring melt.

[7] Under Revision 1 of the AEMP study design, BIC monitoring was completed at n = 10 stations (i.e., five littoral and five profundal) within Sheardown Lake NW (Baffinland 2015). Under Revision 2 of the AEMP study design, which was implemented starting in spring 2025, a total of n = 5 littoral BIC monitoring stations were targeted for sampling (Baffinland 2024).

(Section 2.2). A single composite sample, consisting of five grabs (i.e., 0.115 m^2 sampling area), was collected at each station, ensuring that each grab was acceptable (i.e., captured enough surface material to fill to the edges of the Petite Ponar). Any incomplete grabs were discarded. For each acceptable grab, the Petite Ponar was thoroughly rinsed, and the material was then field-sieved through a 500-µm mesh. After sieving all five grabs at a given station, the retained material was carefully transferred into a plastic sampling jar, which was labelled externally and internally with the station identifier, while working over a clean plastic catch-tote.

Following collection, the BIC samples were preserved in 10% buffered formalin in ambient water. Supporting information, including substrate descriptions, presence of aquatic vegetation/algae, sampling depths, *in situ* water quality at both the surface and bottom of the water column, and GPS coordinates, was recorded on field sheets.

The BIC samples were submitted to Zeas Inc. (Nobleton, ON), where they were processed using standard sorting, identification, and counting methods (Environment Canada 2014). Upon arrival at the laboratory, a biological stain was added to each sample to enhance sorting accuracy. The samples were first washed free of formalin in a 500-µm sieve and then a technician examined the remaining sample material under a stereomicroscope at a magnification of at least 10 times. Benthic invertebrates were carefully removed from the sample debris and placed into vials containing 70% ethanol. Organisms were sorted by major taxonomic groups (typically at the order or family level). A senior taxonomist later identified and enumerated the organisms to the lowest practical level (LPL) of taxonomy (usually genus or species) using up-to-date taxonomic keys. QA/QC control procedures employed during laboratory processing included assessments of organism recovery and sub-sampling checks on up to 10% of the total samples collected for the 2025 CREMP report (TCC 2026 in prep.).

2.3 Data Analysis

2.3.1 Sedimentation Rate and Sediment Accumulation Thickness Estimates

Sedimentation (deposition) rate was calculated for each replicate sediment trap using the equation (Kemp et al. 1974):

$$\text{Sedimentation rate } (mg/cm^2/day) = \frac{\text{dry weight } (mg)}{\text{total area } (cm^2)} \div \text{deployment time period } (day)$$

Where the dry weight is the total mass of dry sediment material collected during the ice cover or open water period, the total area is the surface area of the sediment trap, and the deployment period reflects the number of days the trap was deployed.

The sedimentation rate information was evaluated statistically as follows:

1) spatial comparisons among the three areas (SHAL-1, SHAL-2 and DEEP-1) for separate ice cover and open water periods;
2) comparisons of interannual variations in sedimentation at each area relative to the baseline year;
3) comparisons between the ice cover and open water periods at each area for the current study year;

4) correlation analysis between sedimentation data and year, to identify potential temporal patterns (e.g., a general increase or decrease in sedimentation rates over time);

5) correlation analysis between sedimentation rate and aerial dustfall deposition during the ice cover and open water periods; and

6) visualization and qualitative comparison between aerial dustfall chemistry and sediment trap chemistry.

For the statistical analysis, raw data were assessed for normality and homogeneity of variance and log-transformed as necessary to meet test assumptions before conducting a two-way Analysis of Variance (ANOVA) with *Area* and *Year* as factors or conducting t-tests between seasons within each area. In instances where normality could not be achieved through data transformation, Kruskal-Wallis H-tests were used for multiple group (i.e., ANOVA analysis) comparisons using rank transformed data. When ANOVA showed significant differences, post-hoc pair-wise comparisons were assessed using Tukey's Honestly Significant Difference (HSD) tests, or in cases where non-parametric analysis was required, Dunn's test. For comparisons of sediment deposition between seasons (e.g., t-test), when normality could not be achieved through data transformation, a non-parametric Mann-Whitney U test was used for analysis. Additionally, if variance was unequal between groups based on Levene's Test for Equality of Variance, Welch's t-test was used for comparisons between seasons. Temporal trends in sedimentation rate for the open water and ice cover periods were evaluated using non-parametric Spearman's ρ rank correlation and p-values less than 0.05 were considered statistically significant. All statistical comparisons were conducted using R (R Core Team 2023).

An estimate of the uncompacted thickness (mm) of sediment (referred herein as sediment accumulation thickness estimates) was calculated separately for each of the ice cover and open water periods using the equation (Kemp et al. 1974):

$$\textit{Sediment accumulation thickness (mm/deployment period)} = \frac{\textit{sedimentation rate (mg/mm}^2\textit{/day)}}{\textit{bulk density (mg/mm}^3\textit{)}} \textit{ x deployment time period (day)}$$

Uncompacted thickness (i.e., sediment accumulation thickness estimates) represents the thickness of sediment accumulated during the ice cover (September/October to July) or open water (July to September/October) periods (i.e., the deployment period). For this study,

sediment accumulation thickness estimates are calculated on a period basis (i.e., ice cover or open water) unless otherwise noted. Sedimentation BD results were used to calculate sediment accumulation thickness estimates at shallow (littoral) and deep (profundal) areas of Sheardown Lake NW for each of the 2024/2025 ice cover and 2025 open water periods. The sediment thickness information was evaluated statistically between the profundal (DEEP-1) and the two littoral (SHAL-1 and SHAL-2) habitats separately for the ice cover and open water periods, and between the ice cover and open water periods separately for each area using the same statistical methods described above for comparisons of sedimentation rates.

Baffinland has proposed sediment accumulation thickness estimate thresholds to guide management response decisions as part of a TARP for the Mary River Project AEMP (Minnow 2021, Baffinland 2024). The proposed thresholds include:

- a Low Action response threshold of 0.15 mm of sediment deposition during the ice cover period based on the upper range of the natural sedimentation rate of 50 mg/cm^2/year converted to a sediment accumulation thickness estimate using the BD of deposited sediment at Sheardown Lake NW;
- a Moderate Action response threshold of 0.54 mm of sediment deposition during the ice cover period based on the sediment accumulation thickness estimate predicted in the FEIS for the Project; and
- a High Action response threshold of 1 mm sediment deposition during the ice cover period based on the threshold presented in the FEIS for the Project.

The High Action response threshold was adopted from, and supported by, Morgan et al. (1983), Fudge and Bodaly (1984), and Berry et al. (2011) as the sediment accumulation thickness estimates over the egg incubation period at which adverse effects on fish egg survival may occur. On Baffin Island, arctic charr spawning occurs in autumn (September and October) and, although egg hatch occurs in early April, larval emergence generally does not occur until ice breakup in mid-July (Scott and Crossman 1998). Because the egg incubation and larval swim-up periods correspond to the ice cover period used in this study, sediment accumulation thickness estimates for the ice cover period were used to evaluate the potential effects of depositing sediment on arctic charr egg survival at Sheardown Lake NW. Sediment accumulation thickness estimates for the 2024/2025 ice cover period were compared to the Low, Moderate, and High Action response thresholds proposed by Baffinland (2024) and Minnow (2021) to identify potential effects to arctic charr egg incubation and to guide management decisions in accordance with the TARP framework.

2.3.2 Aerial Dustfall Deposition and Chemistry

Dustfall data were compared to sedimentation rates and sediment accumulation thickness estimates by grouping corresponding dustfall data collected every month to the respective ice cover and open water periods. These data were then compared to the sedimentation rate and accumulation thickness estimates for the ice cover and open water periods. Spearman's ρ ($\alpha = 0.05$) was used to assess correlations between dustfall data and sedimentation rate data from 2013 to 2025. For visual comparisons between sediment trap and dustfall chemistry, parameters were selected for graphical presentation if they had applicable AEMP sediment quality benchmarks (i.e., arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, phosphorus, and zinc) or if there was an indication of potential mine-related effects based on previous water quality results (e.g., molybdenum and uranium) in Sheardown Lake NW (Minnow 2024b).

2.3.3 Benthic Invertebrate Community

Statistical analyses of littoral BIC data were conducted for the mine operation period (i.e., 2015 to 2025). The BIC endpoints assessed included:

- mean invertebrate densities (i.e., the average number of organisms per m^2);
- mean taxonomic richness (number of taxa identified to the LPL of taxonomy);
- Simpson's Evenness Index; and
- relative abundance of dominant/indicator taxa and FFG.

Simpson's Evenness was calculated using the Krebs method (Smith and Wilson 1996). Relative abundances of dominant/indicator taxa and FFG were calculated as the raw abundance (i.e., total number of organisms counted) of each respective group relative to the total number of organisms in the parent BIC sample. Dominant/indicator taxonomic groups were defined as those groups representing, on average, greater than 5% of the raw total organism count for a study area or any groups considered to be important indicators of environmental stress. The FFG were assigned based on Pennak (1989), Mandaville (2002), and/or Merritt et al. (2008) descriptions/designations for each taxon.

Historically, BIC endpoints were calculated separately for both littoral and profundal areas using CREMP data; however, following implementation of AEMP Study Design Revision 2, profundal stations were removed from sampling and only littoral endpoints were calculated and reported in the 2025 CREMP report (TCC 2026 in prep.). Comparisons of profundal BIC and sedimentation data can be found in the 2024 Lake Sedimentation Monitoring report (Minnow 2025).

Potential relationships between littoral BIC endpoints and sedimentation rates and accumulation thickness estimates were examined visually and, as data allowed, by correlation analysis. Correlation analysis could not be completed for BIC stations DD-HAB 9-STN2 and DL0-01-8 and their corresponding sediment monitoring area (i.e., SHAL-1, the area in closest proximity to the BIC stations and representing the same habitat type [littoral]; Figure 1.2). This is because DD-HAB 9-STN2 and DL0-01-8 had only two years of data each (2016/2025 and 2024/2025, respectively). Instead, the BIC data from DD-HAB 9-STN2 and DL0-01-8 were added to the data plots, along with sedimentation data from SHAL-1, to support visual examination of the data. Benthic invertebrate community station DL0-01-9 was paired with sediment trap area SHAL-2 and, for each set of paired data, Spearman's Rank correlations were conducted between the BIC endpoints and sediment endpoints. Significance was assessed at alpha of $p < 0.1$ and the comparisons were plotted for qualitative analysis.

3 RESULTS

3.1 Sedimentation Rate

3.1.1 Spatial Comparisons for the 2024 to 2025 Ice Cover and Open Water Periods

The amount of sediment collected (i.e., based on dry weight) at all areas during the 2024/2025 ice cover period was less than that collected during the 2025 open water period (Appendix Table B.1). During the 2024/2025 ice cover period, the mean sedimentation rates at the two littoral areas (SHAL-1 and SHAL-2) were similar (Table 3.1, Appendix Tables A.1 and A.2). These results suggested that sedimentation was uniform between the silt-loam habitat located close to the SDLT1 outlet (SHAL-1) and habitat characterized by hard substrate potentially used by arctic charr for spawning and egg incubation (SHAL-2). During the 2024/2025 ice cover period, the mean sedimentation rate at the profundal area (DEEP-1) was significantly higher relative to the two littoral areas (SHAL-1 and SHAL-2; Table 3.1, Appendix Tables A.1 and A.2). The profundal area, DEEP-1, is located within the deepest[8] part of Sheardown Lake NW and is considered representative of conditions of maximum sediment deposition within the lake.

During the 2025 open water period, mean sedimentation rate at SHAL-2, which was identified as a potential spawning and egg incubation location for arctic charr, was significantly higher relative to SHAL-1, but comparable to the deep profundal area of the lake (i.e., DEEP-1; Figure 3.1, Appendix Table A.3). The higher sedimentation rate at SHAL-2 than SHAL-1 may be due to backflow of turbid water from Mary River into Sheardown Lake Southeast (SE) and then Sheardown Lake NW during heavy rain events. Specifically, plumes of turbid water, similar to that observed and documented in July 2025, are often observed visually near SHAL-2 and DEEP-1 following heavy or prolonged rainfall (Figure 3.2).

Mean sedimentation rates in the littoral area SHAL-1 (located near SDLT1) were lower than SHAL-2 and DEEP-1, indicating that inputs from key tributaries reporting to Sheardown Lake NW are not likely contributing to higher sedimentation rates in the lake (Table 3.2; Appendix Table A.3). Finally, it is noteworthy the open water results were within normal and typical sedimentation rates for Arctic lakes (Wetzel 2001).

Mean annual sedimentation rates at Sheardown Lake NW in 2024/2025 were 36 mg/cm^2/year and 42 mg/cm^2/year for the littoral areas SHAL-1 and SHAL-2, respectively (Appendix Table A.1). The profundal area (DEEP-1) had the highest mean annual sedimentation rate of

[8] The depth of the two littoral stations, SHAL-1 and SHAL-2, are approximately 10 m and 6 m, respectively. The profundal area, DEEP-1, is approximately 25 m deep.

Table 3.1: Sedimentation Rate and Sediment Accumulation Thickness Estimate Data for the 2024 to 2025 Ice Cover Period at Sheardown Lake Northwest (NW)

Station ID	Original Set Location		Date		Set Duration (days)	Total Dry Weight (g)	Sedimentation Rate (mg/cm^2/day)	Sedimentation Rate (mg/cm^2/ice cover period)	Sediment Accumulation Thickness Estimate [a] (mm)
	Easting	Northing	Deployed	Retrieved					
Shallow 1 (SL-SHAL-1)									
SL-SHAL-1A	560338	7913292	5-Oct-24	6-Jul-25	274	1.06	0.0657	18.0	0.0634
SL-SHAL-1B	560345	7913292	5-Oct-24	5-Jul-25	273	0.990	0.0616	16.8	0.0592
SL-SHAL-1C	560342	7913292	5-Oct-24	8-Jul-25	276	1.05	0.0646	17.8	0.0628
SL-SHAL-1D	560350	7913283	5-Oct-24	5-Jul-25	273	1.06	0.0659	18.0	0.0634
SL-SHAL-1E	560345	7913282	5-Oct-24	8-Jul-25	276	0.830	0.0511	14.1	0.0496
				Mean	**274**	**0.998**	**0.0618**	**16.9**	**0.0597**
				Median	**274**	**1.05**	**0.0646**	**17.8**	**0.0628**
				Standard Deviation	**1.52**	**0.0983**	**0.00623**	**1.67**	**0.00588**
Shallow 2 (SL-SHAL-2)									
SL-SHAL-2A	560557	7913089	7-Oct-24	5-Jul-25	271	1.06	0.0664	18.0	0.0584
SL-SHAL-2B	560553	7913097	5-Oct-24	7-Jul-25	275	1.05	0.0648	17.8	0.0579
SL-SHAL-2C-HIS [b]	560579	7913092	19-Sep-23	5-Jul-25	655	-	-	-	-
SL-SHAL-2D	560544	7913108	5-Oct-24	7-Jul-25	275	1.06	0.0654	18.0	0.0584
SL-SHAL-2E	560580	7913110	5-Oct-24	5-Jul-25	273	0.790	0.0491	13.4	0.0435
				Mean	**274**	**0.990**	**0.0615**	**16.8**	**0.0546**
				Median	**274**	**1.06**	**0.0651**	**17.9**	**0.0582**
				Standard Deviation	**1.91**	**0.133**	**0.00824**	**2.27**	**0.00735**
Deep 1 (SL-DEEP-1)									
SL-DEEP-1A	560240	7913046	7-Oct-24	7-Jul-25	273	1.42	0.0883	24.1	0.0780
SL-DEEP-1B	560232	7913064	7-Oct-24	7-Jul-25	273	1.35	0.0840	22.9	0.0742
SL-DEEP-1C	560235	7913051	7-Oct-24	5-Jul-25	271	2.38	0.149	40.4	0.131
SL-DEEP-1C-HIS[b]	560235	7913051	10-Jul-24	5-Jul-25	360	-	-	-	-
SL-DEEP-1D	560227	7913059	7-Oct-24	8-Jul-25	274	1.42	0.0880	24.1	0.0780
SL-DEEP-1E	560223	7913039	7-Oct-24	9-Jul-25	275	1.32	0.0815	22.4	0.0725
				Mean	**273**	**1.58**	**0.0982**	**26.8**	**0.0867**
				Median	**273**	**1.42**	**0.0880**	**24.1**	**0.0780**
				Standard Deviation	**1.48**	**0.450**	**0.0286**	**7.65**	**0.0248**

Notes: ID = identifier. g = grams. mg/cm^2 = milligrams per square centimetre. mm = millimetres. - = a sediment trap that was not submitted to the laboratory because it was deployed for more than one ice cover period. Surface area of the sediment trap is 58.9 cm^2.

[a] Sediment accumulation thickness estimates are for the entire ice cover period and calculated using the composite bulk density data for a given area (Table B.1).

[b] Data excluded from the statistical analysis as the sediment trap was deployed for more than one ice cover period.

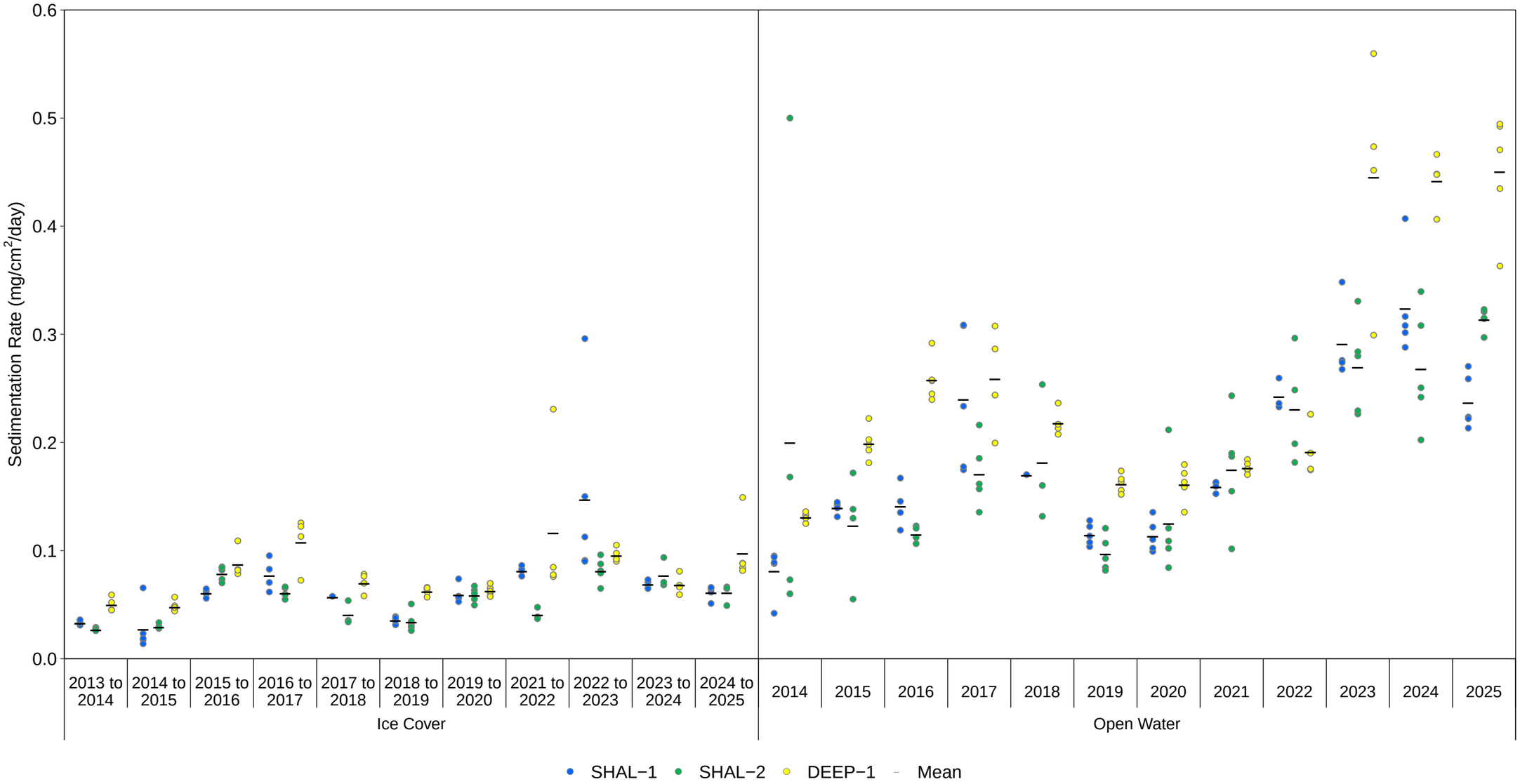


Figure 3.1: Sedimentation Rates During Ice Cover and Open Water Periods at Sheardown Lake Northwest (NW) over Mine Baseline (2013 to 2014) and Operational Phases (2015 to 2025), Sheardown Lake NW Sedimentation Monitoring Study

Note: Black lines indicate the mean sedimentation rate of a station for a given year/season.

LEGEND

Approximate Location of Sedimentation Monitoring Area

July 2025 Aerial View of Sheardown Lake Northwest and Sheardown Lake Southeast and Approximate Location of Lake Sedimentation Monitoring Areas

Date: March 2026
Project 257202.5067

Trinity Consultants CANADA

Figure 3.2

Document Path: Baffinland Iron Mines - 257202.5067 - 2025 AEMP\D - GIS\Lake Sedimentation\Graphics\25-5067 Figure 3.3.ai

Table 3.2: Sedimentation Rate and Sediment Accumulation Thickness Estimate Data for the 2025 Open Water Period at Sheardown Lake Northwest (NW)

Station ID	Original Set Location		Date		Set Duration (Days)	Total Dry Weight (g)	Sedimentation Rate (mg/cm^2/day)	Sedimentation Rate (mg/cm^2/open water period)	Sediment Accumulation Thickness Estimate [a] (mm)
	Longitude	Latitude	Deployed	Retrieved					
Shallow 1 (SL-SHAL-1)									
SL-SHAL-1A	560340	7913292	6-Jul-25	25-Sep-25	81.0	1.29	0.270	21.9	0.0802
SL-SHAL-1B	560347	7913295	5-Jul-25	25-Sep-25	82.0	1.03	0.213	17.5	0.0641
SL-SHAL-1C	560346	7913294	8-Jul-25	25-Sep-25	79.0	1.04	0.224	17.7	0.0647
SL-SHAL-1D	560334	7913289	5-Jul-25	25-Sep-25	82.0	1.25	0.259	21.2	0.0777
SL-SHAL-1E	560337	7913285	9-Jul-25	25-Sep-25	78.0	1.02	0.222	17.3	0.0634
				Mean	**80.4**	**1.13**	**0.238**	**19.1**	**0.0700**
				Median	**81.0**	**1.04**	**0.224**	**17.7**	**0.0647**
				Standard Deviation	**1.82**	**0.132**	**0.0253**	**2.25**	**0.00823**
Shallow 2 (SL-SHAL-2)									
SL-SHAL-2A	560558	7913096	5-Jul-25	25-Sep-25	82.0	1.55	0.321	26.3	0.152
SL-SHAL-2B	560564	7913093	7-Jul-25	25-Sep-25	80.0	1.40	0.297	23.8	0.137
SL-SHAL-2C	560579	7913091	5-Jul-25	25-Sep-25	82.0	1.56	0.323	26.5	0.153
SL-SHAL-2D	560544	7913116	7-Jul-25	26-Sep-25	81.0	1.50	0.314	25.5	0.147
SL-SHAL-2E	560590	7913106	5-Jul-25	26-Sep-25	83.0	1.54	0.315	26.1	0.151
				Mean	**81.6**	**1.51**	**0.314**	**25.6**	**0.148**
				Median	**82.0**	**1.54**	**0.315**	**26.1**	**0.151**
				Standard Deviation	**1.14**	**0.0656**	**0.0102**	**1.11**	**0.006**
Deep-1 (SL-DEEP-1)									
SL-DEEP-1A	560242	7913042	7-Jul-25	25-Sep-25	80.0	2.32	0.492	39.4	0.143
SL-DEEP-1B	560240	7913048	7-Jul-25	25-Sep-25	80.0	2.33	0.494	39.6	0.143
SL-DEEP-1C	560222	7913033	5-Jul-25	25-Sep-25	82.0	2.10	0.435	35.7	0.129
SL-DEEP-1D	560211	7913024	8-Jul-25	25-Sep-25	79.0	1.69	0.363	28.7	0.104
SL-DEEP-1E	560228	7913043	8-Jul-25	25-Sep-25	79.0	2.19	0.471	37.2	0.135
				Mean	**80.0**	**2.13**	**0.451**	**36.1**	**0.131**
				Median	**80.0**	**2.19**	**0.471**	**37.2**	**0.135**
				Standard Deviation	**1.26**	**0.110**	**0.0547**	**4.44**	**0.0161**

Notes: ID = identifier. g = grams. mg/cm^2 = milligrams per square centimetre. mm = millimetre. Surface area of the sediment trap is 58.9 cm^2.

[a] Sediment accumulation thickness estimates are for the entire open water period and calculated using the mean bulk density for an area (Table B.1).

approximately 63 mg/cm^2/year (Appendix Table A.1). These annual sedimentation rates are generally within the range of those observed at other Canadian Arctic lakes (e.g., 7 to 50 mg/cm^2/year; Lockhart et al. 1998) and much lower than at proglacial lakes in southeast Greenland (e.g., mean of 790 mg/cm^2/year; Hasholt et al. 2000). Therefore, observed annual sedimentation rates at Sheardown Lake NW over the study period were within a range that is typical for lakes in the Canadian Arctic that are free from potential influence by mining or industrial activities.

3.1.2 Temporal Comparisons for the 2024 to 2025 Ice Cover and Open Water Periods

Average sedimentation rates at the littoral (SHAL-1 and SHAL-2) and profundal (DEEP-1) monitoring areas in Sheardown Lake NW were significantly higher during the ice cover period in 2024/2025 relative to baseline (i.e., 2013/2014) consistent with the results for 2022/2023 and 2023/2024 (Appendix Table A.2). However, comparisons of 2024/2025 sedimentation rates for ice covered periods of mine operations showed that (Appendix Table A.2):

- average sedimentation rates at the littoral SHAL-1 area were similar to or lower than seven (2015/2016 to 2017/2018, 2019/2020, and 2021/2022 to 2023/2024) of nine ice cover monitoring periods;
- average sedimentation rates at the littoral SHAL-2 area were similar to or lower than six (2016/2017, 2017/2018, 2019/2020, and 2021/2022 to 2023/2024) of nine ice cover monitoring periods; and
- average sedimentation rates at the profundal DEEP-1 area were similar to five (2015/2016 to 2017/2018, 2021/2022, and 2022/2023) of nine ice cover monitoring periods.

The results of temporal comparisons between individual monitoring periods and the 2024/2025 ice cover period indicates that sedimentation rates at SHAL-1, SHAL-2, and DEEP-1 fluctuate among years and may be influenced by seasonal and/or environmental conditions (e.g., spring melt). However, significant moderate (SHAL-1, SHAL-2, and DEEP-1; Spearman's ρ of 0.49 to 0.58, $p < 0.05$) correlations between sedimentation rates during the ice cover period suggested there may be an overall increase in sedimentation rate since the onset of mining (Figure 3.1, Appendix Figure A.1, Appendix Table A.2). Despite these changes over time, sediment accumulation thickness estimates during the 2024/2025 ice cover period were below the Low Action TARP threshold of 0.15 mm (discussed in further detail in Section 3.2; Figure 3.3).

For the open water period, average sedimentation rates at all littoral (SHAL-1 and SHAL-2) and profundal (DEEP-1) areas were significantly higher in 2025 relative to 2014 (Appendix Table A.3). The average sedimentation rates during the open water period have been higher than 2014 for the previous four monitoring periods (2022 to 2025) for all littoral and

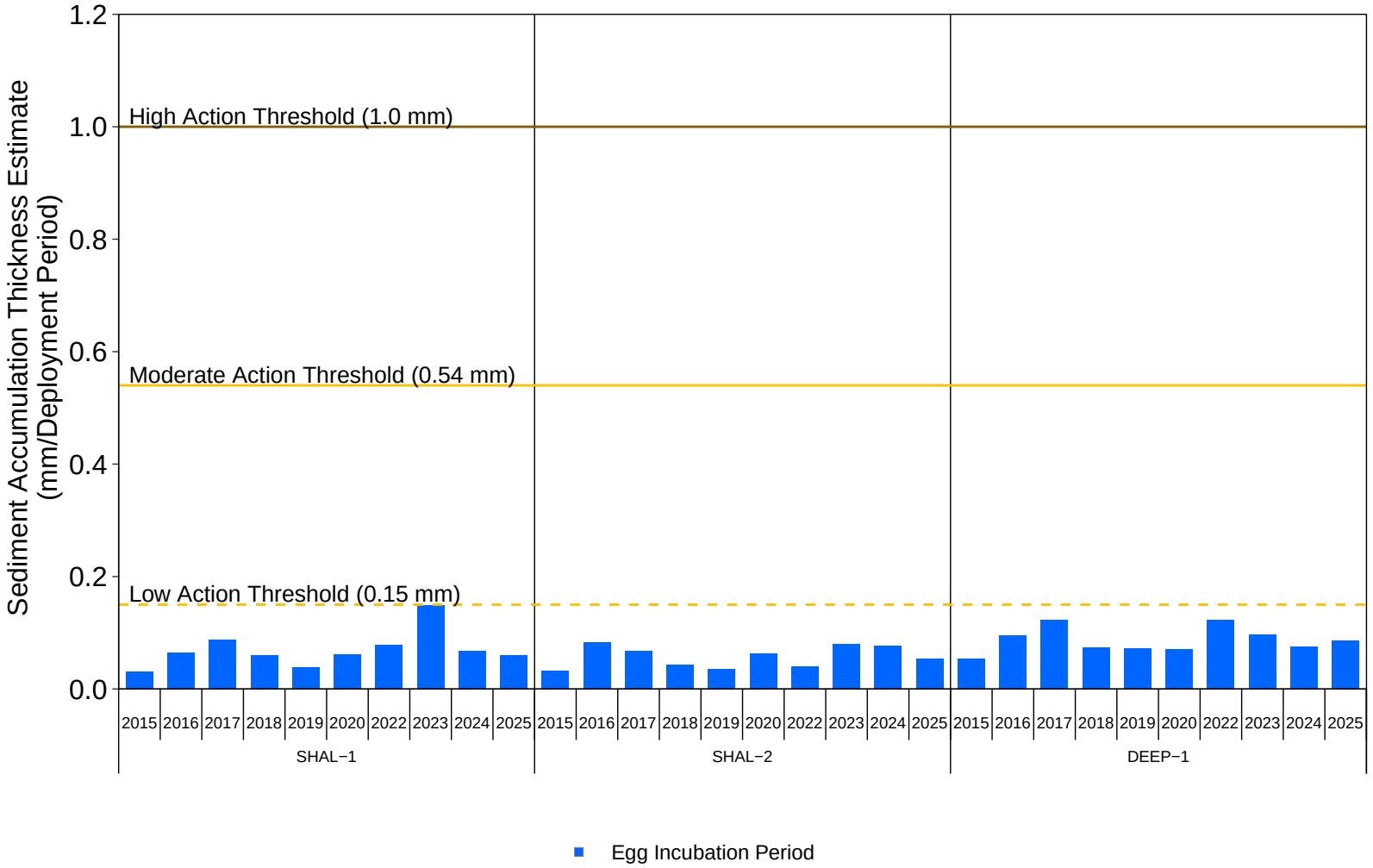


Figure 3.3: Mean Sediment Accumulation Thickness Estimates (mm/Deployment Period) for the Arctic Charr Egg Incubation Period (Ice Cover), Sheardown Lake Northwest (NW), 2015 to 2025

Notes: Dashed orange line represents the sediment accumulation thickness estimate for the Low Action Threshold of 0.15 mm, the solid orange line represents the Moderate Action Threshold of 0.54 mm, and the solid brown line represents the High Action Threshold of 1.0 mm. Action Thresholds are based on the egg incubation period only. The egg incubation period corresponds to the ice cover period (e.g., October 2024 to July 2025). Sediment accumulation thickness estimate data were not collected during the ice cover period of 2021.

profundal monitoring areas (Appendix Table A.3). At the littoral monitoring areas and during the open water period, strong (SHAL-1, Spearman's ρ of 0.67, and $p<0.001$; SHAL-2, Spearman's ρ of 0.64, and $p<0.001$) significant positive correlations between sedimentation rates and year suggested an overall increase in sedimentation rate since the onset of mining (Appendix Figure A.1). At the profundal area (DEEP-1) and during the open water period, there was a moderately strong significant correlation (Spearman's ρ of 0.51, and $p<0.001$) between sedimentation rate and year, indicating an increase in sedimentation rates since the onset of mining (Appendix Figure A.1). Despite the observed increases in lake sedimentation rates, accumulation thickness estimates during in the 2025 open water period were below the Low Action TARP threshold of 0.15 mm (discussed in further detail in Section 3.2). During the 2025 open water period, heavy regional rainfall caused backflow from Mary River into Sheardown Lakes SE and NW, resulting in the transport of naturally occurring highly turbid water into Sheardown Lake NW (Figure 3.2). Backflow of turbid water from Mary River may be also contributing to the increasing sedimentation rates observed during the open water periods. Baffinland will continue to monitor this in subsequent years.

Within Sheardown Lake NW, mean sedimentation rates were four- to five- times higher during the open water period, relative to the ice cover period, for all sampling areas (Appendix Tables A.1 and A.4). Higher sedimentation rates during the open water period versus ice cover periods during baseline were also observed in Sheardown Lake NW. Sheardown Lake NW tributaries freeze to the bottom in the winter and therefore limit sediment material entering Sheardown Lake NW from tributary sources (e.g., sediments sourced from erosion). The deposition of high turbidity water from Mary River into Sheardown Lake NW in the 2025 open water period and deposition of more allochthonous sediment from surface runoff has contributed to the higher sedimentation rates observed during the open water period (Figure 3.2).

3.2 Sediment Accumulation Thickness Estimates

3.2.1 Spatial Comparisons for the 2024 to 2025 Ice Cover and Open Water Periods

During the 2024/2025 ice cover period and 2025 open water period, BD ranged from 1.73 to 3.09 g/cm^3 (Appendix Table B.2). The BD was consistent with BD collected in sediment trap material from 2018 to 2024 (Appendix Table B.2). The composite produced from stations BD-SHAL-3, BD-SHAL-4, and BD-SHAL-5 in the 2025 open water period had the lowest reported BD since 2018 (Appendix Table B.2). The mean organic matter and total organic carbon content were higher at SHAL-2 relative to SHAL-1 and DEEP-1 during the 2025 open water period (Appendix Table B.6) and likely contributed to the lower relative BD.

During the 2025 open water period, PSD was heterogeneous among replicate BD traps corresponding to littoral monitoring areas SHAL-1 (i.e., BD-SHAL-1 and BD-SHAL-2) and SHAL-2 (i.e., BD-SHAL-3, BD-SHAL-4, and BD-SHAL-5; Figure 1.2 and Appendix Table B.4). Generally, during the 2025 open water period, the littoral areas consisted of fine sand (50 to 68%) and less silt and/or clay (31%) relative to the deep area in BD traps (Appendix Table B.4). Particle size distribution at the profundal area during the 2025 open water period was composed predominantly of fine sand and silt and/or clay (Appendix Table B.4).

During the 2024/2025 ice cover period, the PSD of sediment in the traps from the two littoral areas (SHAL-1 and SHAL-2) and the profundal (DEEP-1) area were dominated by fine sand-sized and silt and/or clay sized grains and were more homogenous between areas than the open water period (Appendix Table B.3). The littoral area SHAL-2, which is expected to represent a favourable habitat for arctic charr spawning and egg incubation, had a slightly lower proportion of fine sand sized particles in the trap material and slightly higher proportion of silt and/or clay compared to SHAL-1 (Appendix Table B.3). The sediment trap material from littoral area SHAL-2 was composed primarily of fine sand and silt and/or clay (Appendix Table B.3). Generally, sediment material was consistent between the two littoral areas, likely due to minimal influence of sediment inputs during the winter (e.g., in the absence of sedimentation from tributaries, potential backflow from Mary River, and runoff). The sediment trap material from the profundal DEEP-1 monitoring area had finer sediment (dominated by fine sand and silt an/or clay) than the two littoral monitoring areas. The profundal monitoring area represents the deepest portion of the lake (approximately 25 m deep) and represents the maximum depositional zone within the lake, where finer-grained sediment would be expected to be deposited.

During the 2024/2025 ice cover period, average sediment accumulation thickness estimates for littoral sediment monitoring areas (SHAL-1 and SHAL-2) were comparable (Appendix Tables A.5 and A.6) and lower relative to the profundal monitoring area (DEEP-1; Appendix Table A.6).

During the 2025 open water period, average sediment accumulation thickness estimates were higher at SHAL-2 relative to SHAL-1 (discussed in further detail below; Appendix Tables A.5 and A.7). There were no significant differences between sediment accumulation thickness estimates for the littoral area SHAL-2 and the profundal monitoring area DEEP-1 during the 2025 open water period (Appendix Table A.7). In July 2025, following a significant rainfall event, it was observed that there was backflow from the Mary River system upstream into Sheardown Lake SE, and this backflow eventually reported to Sheardown Lake NW (Figure 3.2). Aerial photographs taken following the event documented highly (visible) turbid water in Sheardown Lake NW; the area near SHAL-2 had the appearance of more turbid water than what was observed near DEEP-1 (Figure 3.2).

Sediment accumulation thickness estimates at the littoral area SHAL-2 and profundal DEEP-1 area were significantly higher during the 2025 open water period than the 2024/2025 ice cover period (Appendix Table A.8). Mean sediment accumulation thickness estimates at the littoral SHAL-1 area were similar during the 2025 open water and 2024/2025 ice cover periods (Appendix Table A.8). Among the three monitoring areas, 54 to 73% of the total annual (from September 2024 to October 2025) sediment accumulated during the open water period (Appendix Table A.5).

The mean annual sediment accumulation thickness estimates (September 2024 to October 2025) at all monitoring areas (0.18 ± 0.05 mm/year; Figure 3.3, Appendix Table A.5) at Sheardown Lake NW were approximately two times lower than other Arctic lakes in western Greenland (mean of 0.54 mm/year; Sobek et al. 2014, Brothers et al. 2008). The sediment accumulation thickness estimates in Sheardown Lake NW at all monitoring areas were comparable to an Alaskan Arctic lake (0.16 mm/year) of similar depth (30 m depth), and lower than lakes that are deeper than 10 m (range from 0.3 to 1.5 mm/year) north of the 65° latitude[9] (O'Brien et al. 1997, Sobek et al. 2014, Brothers et al. 2008). The mean annual sediment accumulation thickness estimate (0.22 ± 0.03 mm/year) for the profundal DEEP-1 area was similar to annual accumulation thicknesses observed at profundal depths in Alaskan Arctic lakes (0.16 ± 0.08 mm/year; Cornwell 1985, O'Brien et al. 1997).

Project-related sedimentation accumulation thickness estimates less than 1 mm/year were predicted in the FEIS to have negligible effects on the direct mortality of arctic charr and arctic charr eggs (Fudge and Bodaly 1984, Baffinland 2012). The sediment accumulation thickness estimates corresponding to the 2024/2025 arctic charr egg incubation period were well below 1 mm/year at Sheardown Lake NW (approximately five to ten times less; Figure 3.3) at all monitoring stations (Baffinland 2012). The TARP Low Action response threshold of 0.15 mm corresponds to the ice cover period and egg incubation/larval pre-emergence period for arctic charr (Scott and Crossman 1998, Baffinland 2024). The mean sediment accumulation thicknesses estimated for the 2024/2025 ice cover period at all areas (SHAL-1, SHAL-2, and DEEP-1) were approximately two to three times below the TARP Low Action response threshold (Figure 3.3).

3.2.2 Temporal Comparisons for the 2024 to 2025 Ice Cover and Open Water Periods

Ice cover and open water sediment accumulation thickness estimates from 2024/2025 were compared to previous seasons starting with the 2014/2015 ice cover and 2015 open water periods. During the 2024/2025 ice cover period, average sediment accumulation thickness

[9] The sediment monitoring areas at Sheardown Lake NW have a latitude of 71.31°N.

estimates for the littoral areas (SHAL-1 and SHAL-2) were statistically comparable to baseline (2014/2015), whereas estimates for the profundal area (DEEP-1) were significantly higher than baseline (Appendix Table A.6). However, average sediment accumulation thickness estimates at the littoral areas SHAL-1 and SHAL-2 (area selected as a favourable habitat for arctic charr spawning/egg incubation) and the profundal DEEP-1 area were similar to or lower than estimates for intervening ice cover monitoring periods (i.e., from 2015 to 2024; Appendix Table A.6). Although a weak positive (Spearman's ρ of 0.32, $p < 0.05$) correlation between sediment accumulation thickness estimates and year was identified for SHAL-1, based on data for the ice-covered period, the results of the ANOVA and Figure A.2 demonstrate sediment accumulation thickness estimates for winter have followed a cyclical pattern over time. The temporal pattern at SHAL-1 also indicates a decrease in sediment accumulation thickness estimates during the ice cover period since the 2022/2023 monitoring period (Appendix Figure A.2). There were no significant correlations between sediment accumulation thickness estimates and year at the littoral SHAL-2 area (area favourable for arctic charr spawning and egg incubation) or DEEP-1 (most depositional zone in the lake) during the ice cover periods (Appendix Figure A.2).

Average sediment accumulation thickness estimates for each of the littoral and profundal areas (i.e., SHAL-1, SHAL-2, and DEEP-1) in Sheardown Lake NW were significantly higher during the 2025 open water period relative to 2015 (Appendix Table A.7). The average sediment accumulation thickness estimates during the open water period have been higher than 2015 for the previous four monitoring periods (2022 to 2025) for all littoral and profundal monitoring areas (Appendix Table A.3). The significant, strong, positive correlations (Spearman's ρ of 0.70 to 0.82, $p < 0.05$; Appendix Figure A.2) between sediment accumulation thickness estimates for the open water period and year indicate an overall increase in sediment accumulation thickness estimates at Sheardown Lake NW over time since mine operation began, and specifically during the open water period (Appendix Figure A.2). As discussed in Section 3.1.2, the deposition of turbid water from Mary River and surface runoff during heavy rain events may have contributed to the higher sedimentation rates observed during the open water period. However, there has been overall increase in sediment accumulation thickness estimates for the open water period since the onset of mining, indicating a potential mine-influence. Aerial imagery indicates that area SHAL-2 (area favourable for arctic charr spawning and egg incubation; Figure 3.2) exhibited the greatest extent of Mary River backflow exposure during the 2025 open water period. This interpretation is consistent with the marked increase in accumulation thickness estimates at that location in 2025 relative to 2024 (Figure A.2).

Overall, results of the temporal comparisons suggest an increase in sediment accumulation thickness estimates over time at all monitoring areas during the open water period, but not during

the ice cover period. Regardless, the sediment accumulation thickness estimates are within the range of Arctic lakes and below the most conservative (Low Action) TARP threshold (Baffinland 2024).

3.3 Aerial Dustfall and Sediment

3.3.1 Comparisons to Aerial Dustfall Deposition

Sedimentation rate and accumulation thickness estimate data for all the Sheardown Lake NW study areas from 2013 to 2025 were evaluated relative to dustfall deposition rates from proximal dustfall monitoring stations (DF-M-01, DF-M-02, and DF-M-03) to explore potential relationships (Appendix Figures A.4 and A.5, Appendix Table A.9). For the ice cover and open water periods, there were no statistically significant correlations ($p > 0.05$) between sedimentation rates or sediment accumulation thickness estimates and cumulative total dustfall rates for any of the Sheardown Lake NW sediment trap monitoring areas (Appendix Figures A.4 and A.5, Appendix Table A.9). Further, sediment accumulation thickness estimates in Sheardown Lake NW were below the 0.54 mm/year predicted in the FEIS (Baffinland 2012). These results indicated that aerial dustfall had no demonstrable influence on accumulated sediment during the year. In addition to dustfall, sedimentation rates in Sheardown Lake NW have other seasonally variable input sources that may introduce suspended sediment (e.g., backflow during heavy rain events), and the deposition of organic material, which varies seasonally (e.g., organic material that is autochthonous [e.g., plankton] or allochthonous [e.g., terrestrial organic detritus in run-off]).

3.3.2 Sediment Trap Chemistry

AEMP benchmarks for sediment chemistry and generic sediment quality guidelines (SQG) were derived from data for bulk sediments that may represent more than one year's worth of sediment deposition (e.g., baseline and reference data for the top 2 cm of sediment cores; Baffinland 2024). Therefore, comparisons of sediment trap chemistry data, which represent discrete intervals of sediment deposition (e.g., one ice cover period), to AEMP benchmarks and SQG can help contextualize metal concentrations in sediment trap material. These comparisons should be interpreted with caution as they do not directly reflect the surface sediment composition (see also Section 3.3.3).

For the 2024/2025 ice cover period and 2025 open water period, mean metal concentrations in sediment trap material from SHAL 1, SHAL-2, and DEEP-1 were generally lower than applicable AEMP benchmarks and SQG (Appendix Figures A.6 and A.7, Appendix Tables B.5 and B.6; Baffinland 2024). However, the mean concentration of (Appendix Figures A.6 and A.7, Appendix Tables B.5 and B.6):

- iron was higher than the AEMP benchmark and baseline at all monitoring areas during the ice cover and open water monitoring periods;
- zinc was higher than the AEMP benchmark and baseline data during the 2024/2025 ice cover period at one littoral area (SHAL-1); and
- chromium was above the AEMP benchmark and baseline at the profundal monitoring area (DEEP-1) during the open water period.

Higher iron concentrations (relative to AEMP benchmarks) in sediment trap material is generally consistent with higher iron concentrations observed in surface sediments (i.e., top 2 cm) monitored in the CREMP (e.g., Minnow 2025, TCC 2026 in prep.). Sheardown Lake NW is influenced by the regional geology (which is attractive for mining due to the naturally high iron content); therefore, it is anticipated that geogenic enrichment may be contributing to naturally high iron concentrations in surface sediment/sediment trap materials. This conclusion is supported by high mean iron and concentrations in Reference Lake 3 sediments in 2025 (discussed in further detail in Section 3.3.3 and TCC 2026 in prep.). In the 2025 CREMP, mean concentrations of zinc and chromium were below AEMP benchmarks in littoral and profundal sediments from Sheardown Lake NW (TCC 2026 in prep.).

3.3.3 Metal Concentrations in Sediment Trap Material Compared to Surface Sediments

Metals with mean concentrations in sediment trap material that were above AEMP benchmarks during the 2024/2025 ice cover period and 2025 open water period (i.e., chromium, iron, and zinc) were examined relative to the surface sediment chemistry results reported in the 2025 CREMP (referred to as surface sediment; TCC 2026 in prep.). As indicated above in Section 3.3.2, sediment trap material represents freshly deposited material during discrete periods of mine operations (e.g., open water period of 2025), whereas surface sediments (i.e., the upper 2 cm) from the CREMP represent sediment quality integrated over time, and sediments that have started to undergo early sediment diagenesis. Therefore, metal concentrations in sediment trap material are not expected to be comparable to surface sediments. Rather, the comparison between metal concentrations in sediment trap materials and surface sediments is intended to support identification of similar patterns between the two sample types (e.g., concentrations of a particular metal being above AEMP benchmarks in sediment trap material and co-located surface sediments).

As noted in Section 3.3.2, mean iron concentrations in the sediment trap material of littoral (SHAL-1 and SHAL-2) and profundal (DEEP-1) monitoring areas in Sheardown Lake NW were above the AEMP benchmark and higher relative to baseline (Appendix Tables B.5 and B.6). In the 2024 CREMP, iron concentration in surface sediments suggested the emergence of a

mine-related influence on sediment quality in Sheardown Lake NW (Minnow 2025). Results of the 2025 CREMP indicated iron concentrations in surface sediments of Sheardown Lake NW and Reference Lake 3 were elevated relative to AEMP benchmarks in littoral sediments but not profundal sediments (TCC 2026 in prep.).

The mean concentration of zinc in sediment trap material was above AEMP benchmarks during the 2024/2025 ice cover period in Sheardown Lake NW at one littoral station (SHAL-1; Appendix Figures A.6 and A.7, Appendix Tables B.5 and B.6), but in the 2025 CREMP, littoral and profundal surface sediments from Sheardown Lake NW had mean concentrations of zinc that were below AEMP benchmarks and lower than the reference lake (TCC 2026 in prep.). Visual evaluation of temporal patterns in zinc concentrations in surficial sediments in the 2025 CREMP did not indicate an increase in zinc concentration with time and zinc concentrations in littoral sediments have consistently been within range of baseline conditions (TCC 2026 in prep.).

At the profundal (DEEP-1) sediment trap monitoring station during the 2025 open water period, the mean concentration of chromium was above the AEMP benchmark, higher than the reference lake, and baseline conditions (TCC 2026 in prep.). The mean concentration of chromium in surface sediments in 2025 was below the AEMP benchmarks (TCC 2026 in prep.). Although the mean chromium concentration in the sediment trap material at DEEP-1 exceeded the AEMP benchmark, results from the 2025 CREMP indicate no mine-related influence on chromium levels in the profundal surface sediments of Sheardown Lake NW. Furthermore, visual assessment of temporal patterns in surficial sediments since 2015 indicated no increase in chromium concentrations over time (TCC 2026 in prep.).

The observed concentrations of metals that were above AEMP benchmarks (e.g., chromium, iron, and zinc) in sediment trap material (Section 3.3.2) may not reflect sediment material on the lake bottom, which will have accumulated over several years (top 2 cm). Metal concentrations in sediment trap materials may be higher than could be expected in surface sediment because the sediment quality samples collected in the CREMP are an average concentration from the upper 2 cm of core, whereas the sediment trap material is fresh seasonal material that represents parameter concentrations accumulated over the monitoring period (TCC 2026 in prep.). Sediment trap chemistry will continue to be monitored to evaluate potential spatial and temporal variations in sediment composition.

3.3.4 Sediment Trap Chemistry Comparisons to Aerial Dustfall Chemistry

Direct statistical comparisons of sediment trap material chemistry with dustfall chemistry require that additional years of monitoring be completed (i.e., sample sizes are currently insufficient because only two years of data are available for sediment trap chemistry).

During the 2024/2025 ice cover and 2025 open water periods, the range of metal concentrations were generally similar among the three terrestrial dustfall monitoring stations DF-M-01, DF-M-02, and DF-M-03; Appendix Figure A.8). Visual examination of sediment trap and dustfall chemistry data suggested that metals present in dustfall (exceptions included cadmium and phosphorus[10]) were also elevated in sediment trap material Appendix Figures A.6 to A.9, Appendix Tables B.5 to B.7). For example, chromium (open water period), iron (ice cover and open water periods), and zinc (ice cover and open water periods) are present in dustfall material during the ice cover and open water periods; therefore, dustfall may be a potential source of these parameters in the sediment either by direct deposition, spring melt, or surface runoff of aerial dustfall. However, due to the lack of temporal data further monitoring is required.

3.4 Benthic Invertebrate Community Relationships with Sedimentation Rate and Thickness and the Potential Effects to Arctic Charr

No statistically significant relationships were identified between benthic invertebrate density, taxonomic richness, or Simpson's Evenness and sedimentation endpoints (rate or accumulation thickness estimates) in the littoral area, SHAL-2, of Sheardown Lake NW during the open water season over the mine operational period (2015 to 2025; Table 3.3, Appendix Table C.1, Appendix Figures C.1 to C.2). However, the relative proportion of *Chironomidae* at littoral BIC station DL0-01-9 had a significant strong negative relationship ($p<0.1$, $r= -0.72$ to -0.83) with sedimentation rate and accumulation thickness estimates (Table 3.3, Appendix Table C.1, Appendix Figures C.1 to C.2). In contrast, visual assessment of newly collected data from Station DL0-01-8, when paired with the nearest sedimentation area (SHAL-1, the station selected as a potential habitat for supporting arctic charr prey availability), indicated a higher relative abundance of *Chironomidae* with higher sedimentation rates and accumulation thickness estimates than would be predicted based on the established DL0-01-9 and SHAL-2 relationships (Appendix Figures C.1 to C.2). Given that only two years of data (2024 and 2025) are available for DL0-01-8, this assessment is preliminary and continued monitoring is recommended to better characterize potential relationships between sedimentation endpoints and chironomid predominance.

Additionally, a significant and strong positive correlation ($p<0.1$, $r= 0.65$) between the relative abundance of *Ostracoda* and sediment accumulation thickness estimates was identified for the paired DL0-01-9 (BIC) and SHAL-2 (sediment trap) areas over the 2015 to 2025 period (Table 3.3,

[10] Cadmium and phosphorus concentrations in dustfall material were generally below the LRLs during the 2024/2025 ice cover and 2025 open water periods.

Table 3.3: Spearman's Rank Correlations between Sedimentation Rate and Accumulation Thickness During the Open Water Period and Benthic Invertebrate Community Endpoints in Littoral Areas of Sheardown Lake Northwest, Lake Sedimentation Monitoring Study, 2015 to 2025

Comparison	Benthic Invertebrate Community Endpoint	Sedimentation Rate (mg/cm²/d)		Sediment Accumulation Thickness Estimate (mm/Deployment Period)	
		P-value	Rho	P-value	Rho
DL0-01-9/SHAL2	Density (organism/m²)	0.839	-0.0727	0.694	-0.136
	Richness (No. Taxa)	0.544	0.205	0.831	0.0731
	Simpson's Evenness (Krebs)	0.521	0.218	0.924	0.0364
	% Nematoda	0.095	0.528	0.346	0.314
	% Ostracoda	0.082	0.555	0.037	0.645
	% Chironomidae	0.009	-0.764	0.003	-0.827
	% Metal Sensitive Chironomidae	0.558	-0.2	0.299	-0.345
	% Collector Gatherers	0.881	0.0545	0.503	0.227
	% Filterers	0.755	-0.109	0.418	-0.273

P-value <0.1.

abs(Rho) > 0.6.

Notes: mg/cm^2/d = milligrams per square centimetre per day. mm = millimetres. m ^{2} = square metres. No. = number. % = percent. < = less than. > = greater than.

Appendix Table C.1, Appendix Figure C.2). Visual comparison of DL0-01-8 (paired with SHAL-1) showed a lower relative proportion of *Ostracoda* at higher sediment accumulation thickness estimates compared to proportions observed at DL0-01-9/SHAL-2 (Appendix Figure C.2). However, due to limited temporal data at DL0-01-8, continued monitoring is recommended to confirm whether these observed differences represent true site-specific patterns or short-term variability.

Correlations presented in this report are derived from a limited subset of BIC data collected from Sheardown Lake NW and therefore represent a small portion of the overall lake system. Although sedimentation appears to influence BIC community composition endpoints within the areas examined, arctic charr are not sedentary and can access preferred prey resources throughout the broader lake, including Sheardown Lake SE, which is connected to Sheardown Lake NW. In addition, a more comprehensive annual assessment of lake-wide BIC communities and arctic charr population status is conducted through the CREMP. The broader context of sedimentation and potential effects to BIC endpoints is discussed in the 2025 CREMP (TCC 2026 in prep.). Continued monitoring of relationships among BIC, sedimentation rates, and sediment accumulation thickness estimates will be continued for improving understanding, enabling early detection of potential effects, and supporting timely mitigation should issues arise.

4 CONCLUSIONS

The LSMP has been included as a special investigation component of the Mary River Project AEMP since 2013. The objective of this monitoring program is to track sedimentation and evaluate the potential for adverse influences on resident arctic charr populations due to sedimentation at a representative lake (Sheardown Lake NW) within the immediate area of mine influence. The principal conclusions of the 2024/2025 LSMP were:

- Sedimentation rates at all littoral (SHAL-1 and SHAL-2) and profundal (DEEP-1) monitoring areas were significantly higher during the 2025 open water period compared to the 2024/2025 ice cover period. Sediment accumulation thickness estimates were significantly higher at SHAL-2 (area favourable for arctic charr spawning and egg incubation) during the 2025 open water period compared to the 2024/2025 ice cover period but were similar to the previous three (2022 to 2024) open water monitoring periods. During the 2025 open water period, sediment accumulation thickness estimates were significantly lower at the profundal (DEEP-1, deepest area of the lake) monitoring area compared to the 2024/2025 ice cover period.
- Sedimentation rates at Sheardown Lake NW during the 2024/2025 ice cover and 2025 open water periods at all littoral (SHAL-1 and SHAL-2) and profundal (DEEP-1) habitats were significantly higher in 2025 compared to baseline.
- Annual sediment accumulation thickness estimates for Sheardown Lake NW, based on the combined ice cover and open water conditions during 2024/2025, were within the range reported for Arctic lakes of comparable size and/or depth and were below the FEIS prediction of 1 mm/year associated with negligible effects on direct mortality of arctic charr and arctic charr eggs. The mean sediment accumulation thicknesses estimated for the 2024 to 2025 arctic charr egg incubation/larval pre-emergence period (i.e., ice cover period) at Sheardown Lake NW were 0.060 mm/ice cover period, 0.055 mm/ice cover period, and 0.087 mm/ice cover period at SHAL-1, SHAL-2, and DEEP-1, respectively. Sediment accumulation thickness estimates during the ice cover period were below the TARP Low Action threshold of 0.15 mm/ice cover period and approximately 6 to 10% of the threshold level of 1 mm/year of sediment accumulation thickness purported to affect egg incubation success (Baffinland 2024). Overall, these results suggested no anticipated mine-related effects on arctic charr reproductive success at Sheardown Lake NW as the result of sedimentation rates and/or estimated sediment accumulation thicknesses over the 2024 to 2025 egg incubation/larval pre-emergence period.

- Comparisons between cumulative dustfall deposition rates (i.e., amount of dustfall deposited during the ice cover or open water period) and sedimentation rates and sediment accumulation thickness estimates indicated no significant positive temporal correlations between dustfall and sediment endpoints, indicating that dustfall is not likely the main source of sediment into Sheardown Lake NW.
- Sediment trap material had elevated mean concentrations of iron (all monitoring areas), chromium (open water only), and zinc during the 2024/2025 ice cover and 2025 open water periods, relative to AEMP benchmarks that were derived for surface sediment deposits. Although mean metal concentrations were elevated relative to AEMP benchmarks, assessment of sediment quality data collected in the 2025 CREMP did not indicate increasing temporal trends, and concentrations of chromium or zinc were within range of baseline conditions. In the 2024 CREMP, iron was identified as exhibiting a mine-related influence on sediment quality in Sheardown Lake NW. However, results from the 2025 CREMP did not indicate any mine-related effects associated with elevated metal concentrations (relative to AEMP benchmarks) in sediment, water chemistry, or biota in Sheardown Lake NW.
- Visual comparison between dustfall and sediment chemistry data indicated that dustfall may be a potential source of metals in newly accumulated sediment in Sheardown Lake NW, but further monitoring and data analysis are required and will continue.
- No significant relationships were identified between sedimentation endpoints and density, richness, or Simpson's Evenness in littoral habitat SHAL-2 (2015 to 2025). In the littoral zone, relative proportions of *Chironomidae* were significantly and negatively correlated with sedimentation rate and accumulation thickness at DL0-01-9, whereas relative proportions of *Ostracoda* were positively correlated with accumulation thickness at DL0-01-9/SHAL-2.

5 REFERENCES

ASTM (American Society for Testing and Standards [ASTM] International). Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System). ASTM D2487-17E01. 2020. West Conshohocken, PA, USA.

Baffinland (Baffinland Iron Mines Corporation). 2012. Final Environmental Impact Statement (FEIS), Volume 7 - Freshwater Environment. February.

Baffinland. 2015. Mary River Project Aquatic Effects Monitoring Plan. Document No. BAF-PH1-830-P16-0039. Rev 1.

Baffinland. 2024. Mary River Project Aquatic Effects Monitoring Plan. Document No. BIM-5200-PLA-0023. Rev 2.

BCMOE (British Columbia Ministry of Environment and Climate Change Strategy). 2025. British Columbia Approved Water Quality Guidelines: Aquatic Life, Wildlife & Agriculture – Guideline Summary. Water Protection and Sustainability Branch. Water Quality Guideline Series, WQG-20. August 2024.

Berry, W., N. Rubinstein, B. Melzian and B. Hill. 2003. The Biological Effects of Suspended and Bedded Sediment (SABS) in Aquatic Systems: A Review. U.S. EPA. August 20, 2003.

Berry, W.J., N.I Rubinstein, E.K. Hinchey, G. Klein-MacPhee, and D.G. Clarke. 2011. Assessment of dredging-induced sedimentation effects on winter flounder (*Pseudopleuronectes americanus*) hatching success: results of laboratory investigations. Proceedings of the Western Dredging Association Technical Conference and Texas A&M Dredging Seminar, Nashville, Tennessee, June 5-8 2011. pp. 47 – 57.

Brothers, S. J.C. Vermaire, and I. Gregory-Eaves. 2008. Empirical models for describing recent sedimentation rates in lakes distributed across broad spatial scales. Journal of Paleolimnology 40 : 1003 – 1019. DOI 10.1007/s10933-008-9212-8

Cornwell, J. 1985. Sediment accumulation rates in an Alaskan arctic lake using a modified 210Pb technique. Canadian Journal of Fisheries and Aquatic Sciences 42 : 809 – 814.

EDI (Environmental Dynamics Inc.). 2025. Terrestrial Environment 2024 Annual Monitoring Report. 25C0127. Rev 1.0.

Environment Canada. 2014. Laboratory Methods: Processing, Taxonomy, and Quality Control of Benthic Macroinvertebrate Samples. Canadian Aquatic Biomonitoring Network (CABIN). May.

Fudge, R.J.P., and R.A. Bodaly. 1984. Post-impoundment winter sedimentation and survival of lake whitefish (*Coregonus clupeaformis*) eggs in Southern Indian Lake, Manitoba. Canadian Journal of Fisheries and Aquatic Sciences 41 : 118 – 125.

Hasholt, B., D.E. Walling, and P.N. Owens. 2000. Sedimentation in arctic proglacial lakes: Mittivakkat Glacier, south-east Greenland. Hydrological Processes 14 : 679 – 699.

Hawthorne, R. 2024. Project Manager, Waterloo Environmental ALS Laboratories. Email conversation with Jaime Caplette (Minnow). July 17, 2024.

Kemp, ALW, Anderson, TW, Thomas, RL, Mudrochova, A. 1974. Sedimentation rates and recent sediment history of Lakes Ontario, Erie, and Huron. J. Sediment. Petrol. 44: 207-218.

Lockhart, W.L., P. Wilkinson, B.N. Billick, R.A. Danell, R.V. Hunt, G.J. Brunskill, J. Delaronde, and V. St. Louis. 1998. Fluxes of mercury to lake sediments in central and northern Canada inferred from dated core samples. Biogeochemistry 40 : 163 – 173.

Mandaville, S.M. 2002. Benthic Macroinvertebrates in Freshwaters – Taxa Tolerance Values, Metrics and Protocols. Project H-1. Soil and Water Conservation Society of Metro Halifax.

Merritt, R.L., K.M. Cummins, and M.B. Berg. 2008. An Introduction to the Aquatic Insects of North America. 4th Ed. Kendall/Hunt Publishing, Dubuque. 1214 pp.

Minnow (Minnow Environmental Inc.) 2016. Mary River Project 2014 – 2015 Lake Sedimentation Monitoring Report. Prepared for Baffinland Iron Mines Corp. March. Project 2569.

Minnow. 2017. Mary River Project 2015 – 2016 Lake Sedimentation Monitoring Report. Prepared for Baffinland Iron Mines Corp. March. Project 2569.

Minnow. 2018. Mary River Project 2016 – 2017 Lake Sedimentation Monitoring Report. Prepared for Baffinland Iron Mines Corp. March. Project 177202.0033.

Minnow. 2019. Mary River Project 2017 – 2018 Lake Sedimentation Monitoring Report. Prepared for Baffinland Iron Mines Corp. March. Project 187202.0025.

Minnow. 2020. Mary River Project 2018 – 2019 Lake Sedimentation Monitoring Report. Prepared for Baffinland Iron Mines Corp. March. Project 197202.0032.

Minnow. 2021. Mary River Project 2019 to 2020 Lake Sedimentation Monitoring Report. Prepared for Baffinland Iron Mines Corp. March. Project 207202.0045.

Minnow. 2022. Mary River Project 2020 to 2021 Lake Sedimentation Monitoring Report. Prepared for Baffinland Iron Mines Corp. March. Project 217202.0075.

Minnow. 2023. Mary River Project 2021 to 2022 Lake Sedimentation Monitoring Report. Prepared for Baffinland Iron Mines Corp. March. Project 227202.0072.

Minnow. 2024a. Mary River Project 2022 to 2023 Lake Sedimentation Monitoring Report. Prepared for Baffinland Iron Mines Corp. March. Project 237202.0080.

Minnow. 2024b. Mary River Project 2023. Core Receiving Environment Monitoring Program Report. Prepared for Baffinland Iron Mines Corp. March. Project 237202.0080.

Minnow. 2025. Mary River Project 2024. Core Receiving Environment Monitoring Program Report. Prepared for Baffinland Iron Mines Corp. March. Project 247202.0075.

Morgan, R.P, V.J. Rasin and L.A. Noe. 1983. Sediment effects on eggs and larvae of striped bass and white perch. Transactions of the American Fisheries Society 112 : 220 – 224.

Mudroch, A., and S.D. MacKnight (Eds). 1994. Handbook of techniques for aquatic sediment sampling. Second Edition. Lewis Publishers. 235 pp.

NSC (North/South Consultants Inc.). 2014a. Sediment trap sampling program: Open-water season 2013. Prepared for Baffinland Iron Mines Corporation. February 2014.

NSC 2014b. Aquatic Effects Monitoring Program: Lake Sedimentation Monitoring Program. Prepared for Baffinland Iron Mines Corporation. June 2014.

NSC 2015. Mary River Project Lake Sedimentation Monitoring Program: 2013/2014. Prepared for Baffinland Iron Mines Corporation. March 2015.

O'Brien, W.J., Bahr, M., Hershey, A.E., Hobbie, J.E., Kipphut, G.W., Kling, G.W., Kling, H., McDonald, M., Miller, M.C., Rublee, P., and Vestal, J.R. 1997. The Limnology of Toolik Lake. Springer, New York, NY.

OMOE (Ontario Ministry of Environment). 1993. Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario. August 1993, Reprinted October, 1996.

Pennak, R.W. 1989. Freshwater invertebrates of the United States. Third edition. John Wiley and Sons, Inc., New. York. 628 pp.

R Core Team. 2023. R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.

Scott, W.B., and E.J. Crossman. 1998. Freshwater Fishes of Canada. Galt House Publications Ltd., Oakville, Ontario.

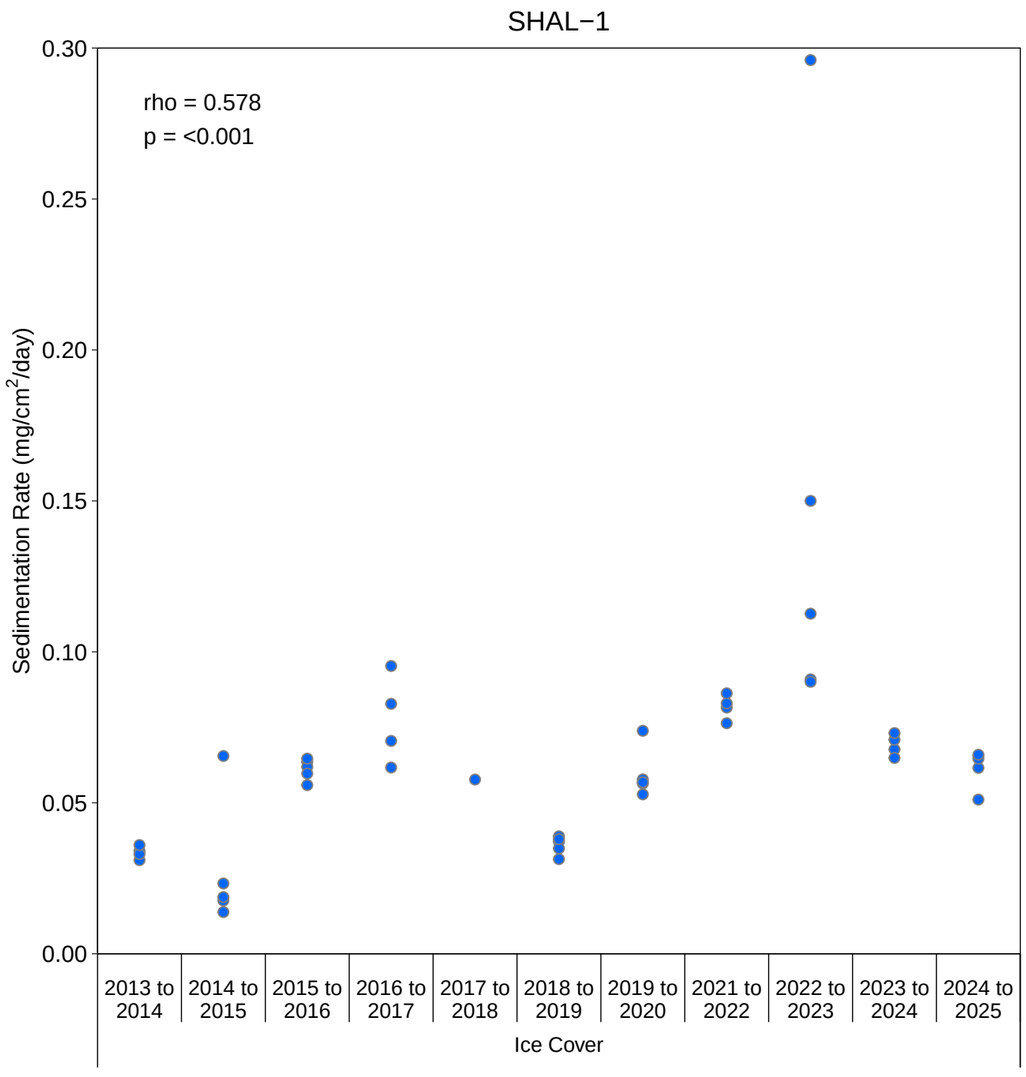
Smith, B. and J.B. Wilson. 1996. A Consumer's Guide to Evenness Indices. Oikos 76: 70 – 82.

Sobek, S., N.J. Anderson, S.M. Bernasconi, and T. Del Sontro. 2014. Low Organic Carbon Burial Efficiency in Arctic Lake Sediments. Journal of Geophysical Research: Biogeosciences. 119 : 1231 – 1243

TCC (Trinity Consultants Canada). 2026 (in prep.). Mary River Project 2025. Core Receiving Environment Monitoring Program Report. Prepared for Baffinland Iron Mines Corp. March. Project 257202.5067.

Wetzel, R.G. 2001. Limnology: Lake and River Ecosystems. Third Edition. Academic Press. San Diego, CA, USA. 1006 pp.

APPENDIX A
SEDIMENTATION DATA



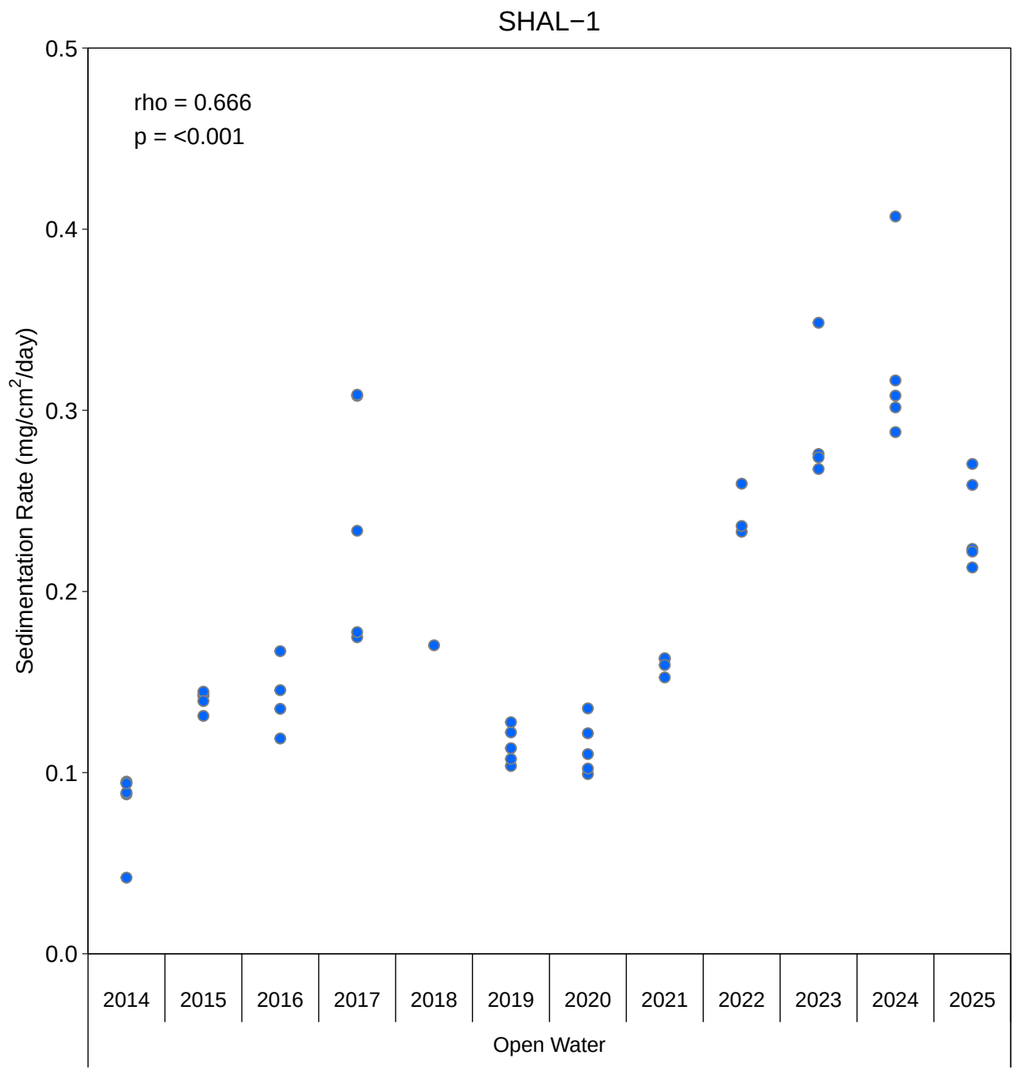
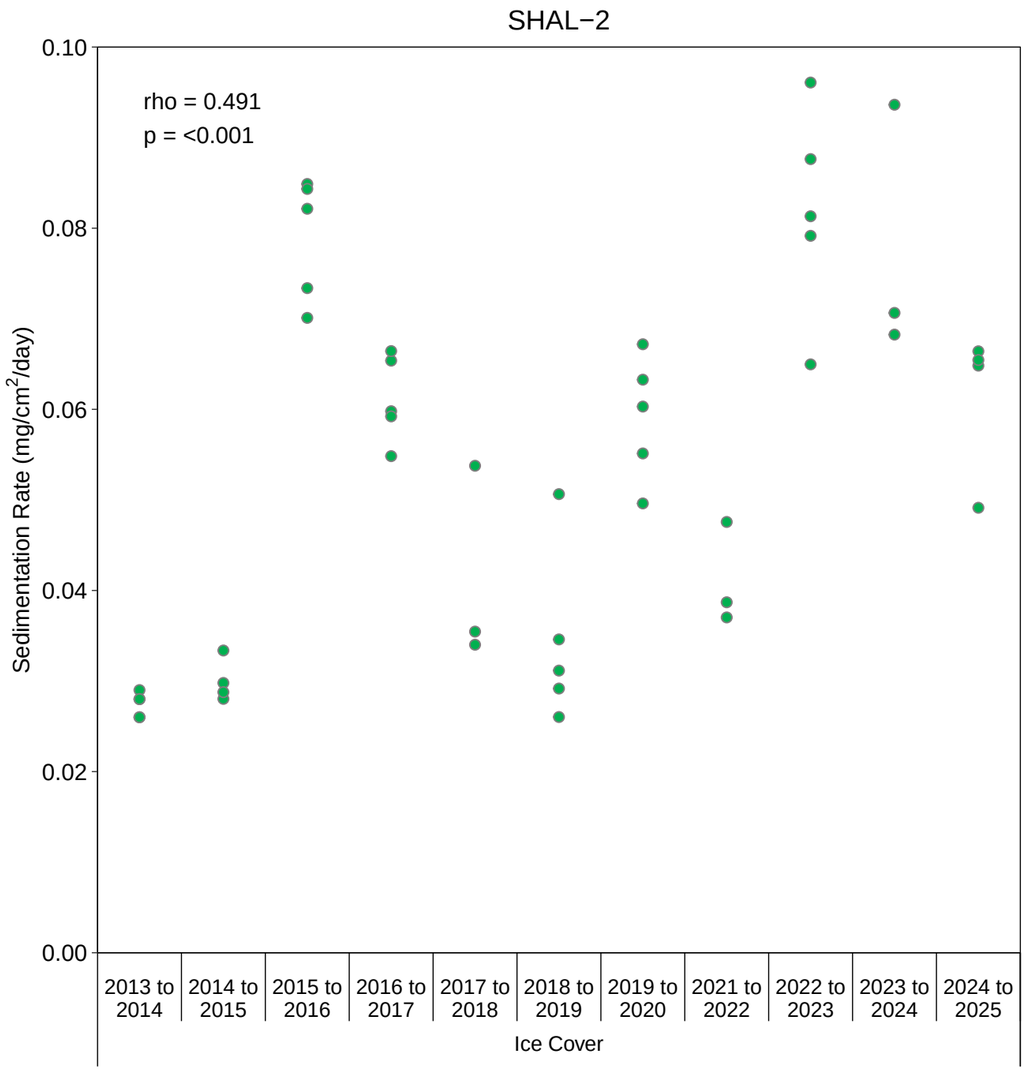


Figure A.1: Sedimentation Rates (mg/cm²/day) During Periods of Ice Cover and Open Water at Sheardown Lake Northwest (NW), Sheardown Lake NW Sedimentation Monitoring Study, 2013 to 2025

Notes: P−values and rho values are calculated using a Spearman's correlation. SHAL−1 and DEEP−1 correlations were run without the anomalously high values in 2022/2023 and 2021/2022, respectively, and this did not change the outcome of the correlation.



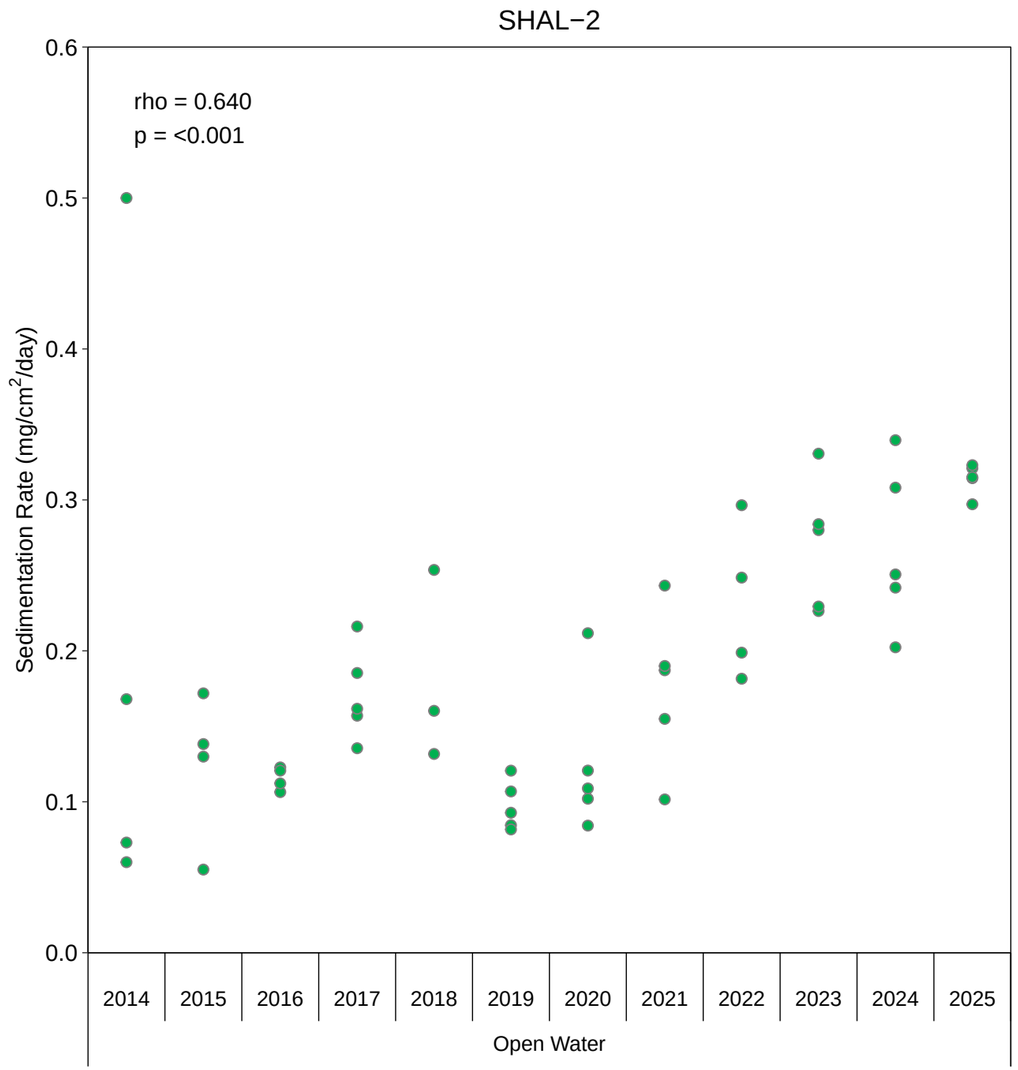
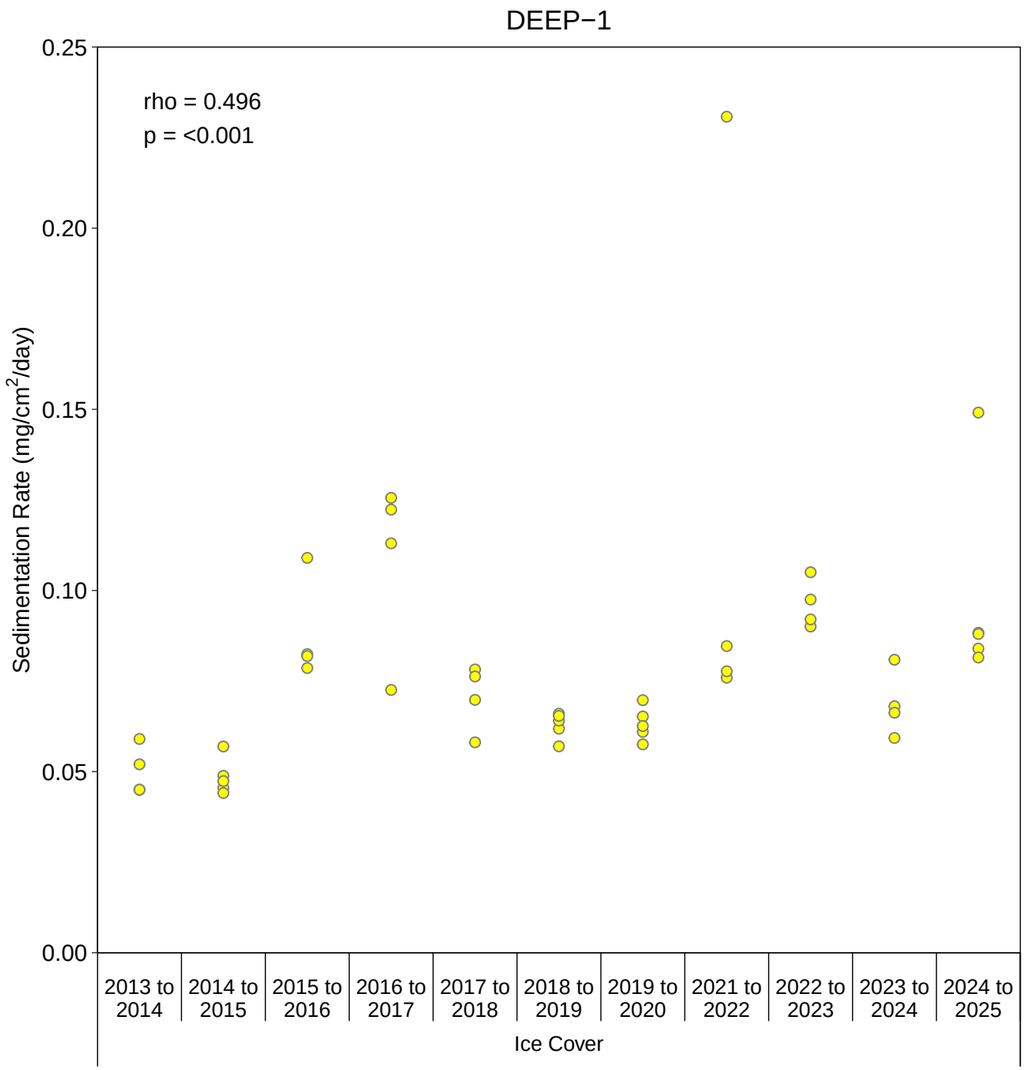


Figure A.1: Sedimentation Rates (mg/cm^2/day) During Periods of Ice Cover and Open Water at Sheardown Lake Northwest (NW), Sheardown Lake NW Sedimentation Monitoring Study, 2013 to 2025

Notes: P−values and rho values are calculated using a Spearman's correlation. SHAL−1 and DEEP−1 correlations were run without the anomalously high values in 2022/2023 and 2021/2022, respectively, and this did not change the outcome of the correlation.



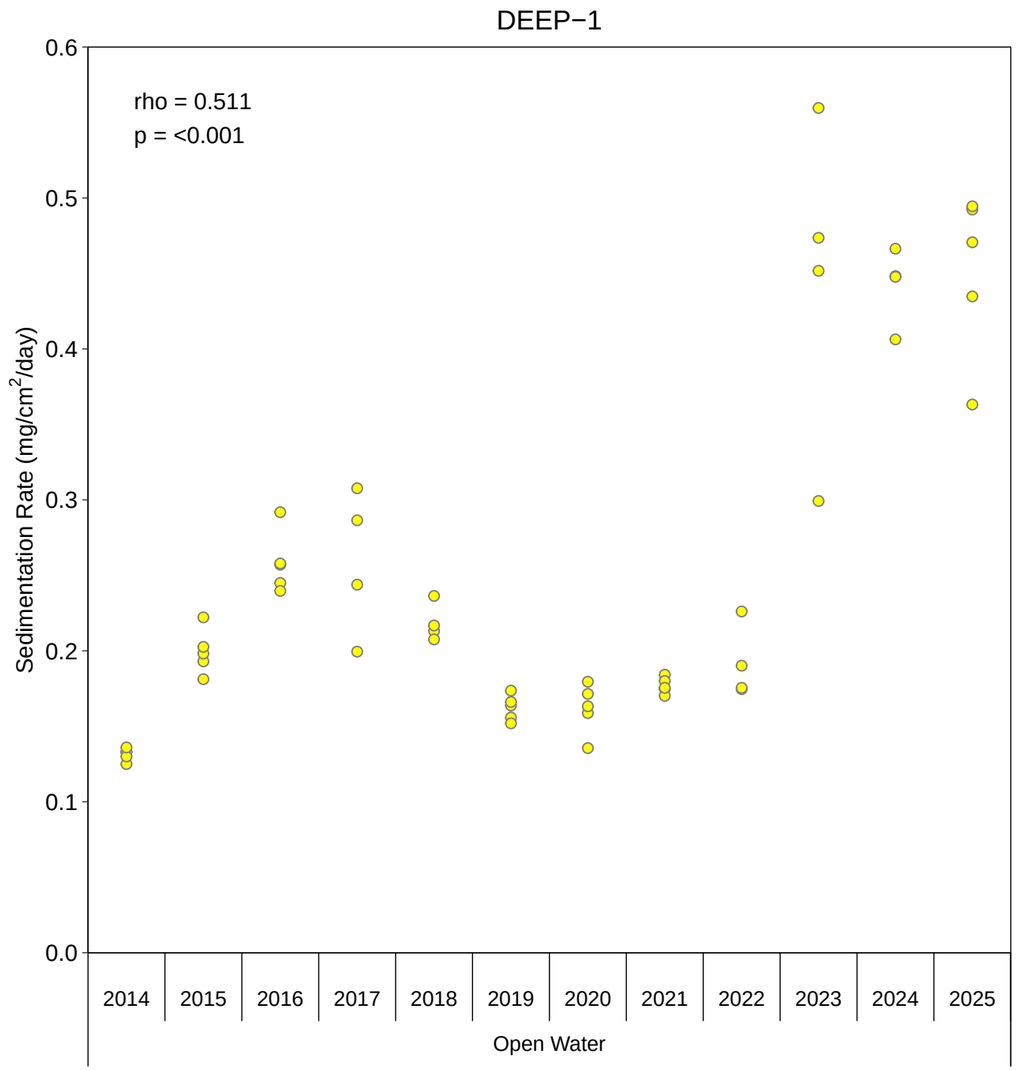


Figure A.1: Sedimentation Rates (mg/cm^2/day) During Periods of Ice Cover and Open Water at Sheardown Lake Northwest (NW), Sheardown Lake NW Sedimentation Monitoring Study, 2013 to 2025

Notes: P−values and rho values are calculated using a Spearman's correlation. SHAL−1 and DEEP−1 correlations were run without the anomalously high values in 2022/2023 and 2021/2022, respectively, and this did not change the outcome of the correlation.

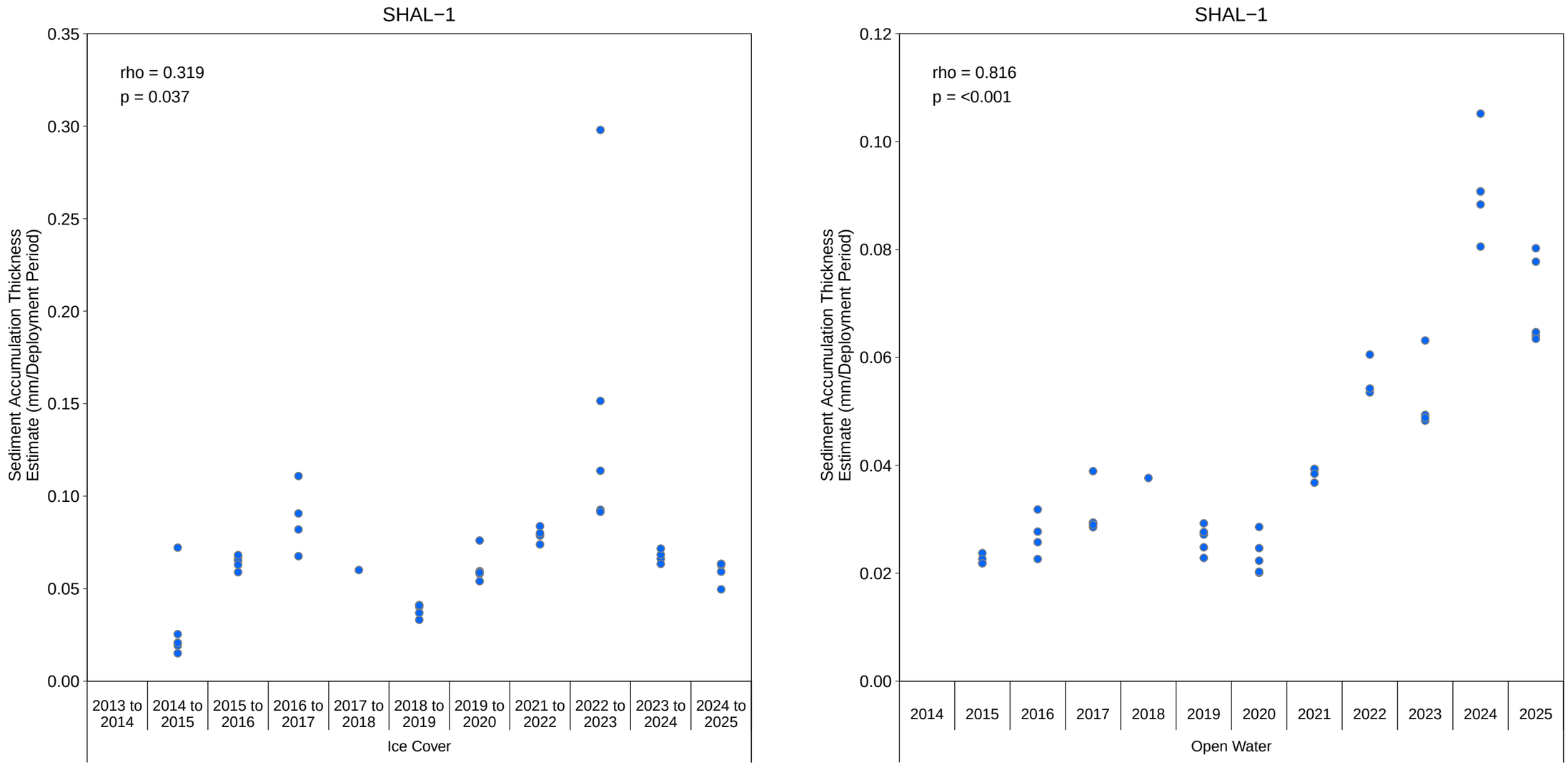


Figure A.2: Sedimentation Accumulation Thickness Estimates (mm/Deployment Period) During Periods of Ice Cover and Open Water at Sheardown Lake Northwest (NW), Sheardown Lake NW Sedimentation Monitoring Study, 2013 to 2025

Notes: P−values and rho values are calculated using a Spearman's correlation. SHAL−1 and DEEP−1 correlations were run without the anomalously high values in 2022/2023 and 2021/2022, respectively, and this did not change the outcome of the correlation.

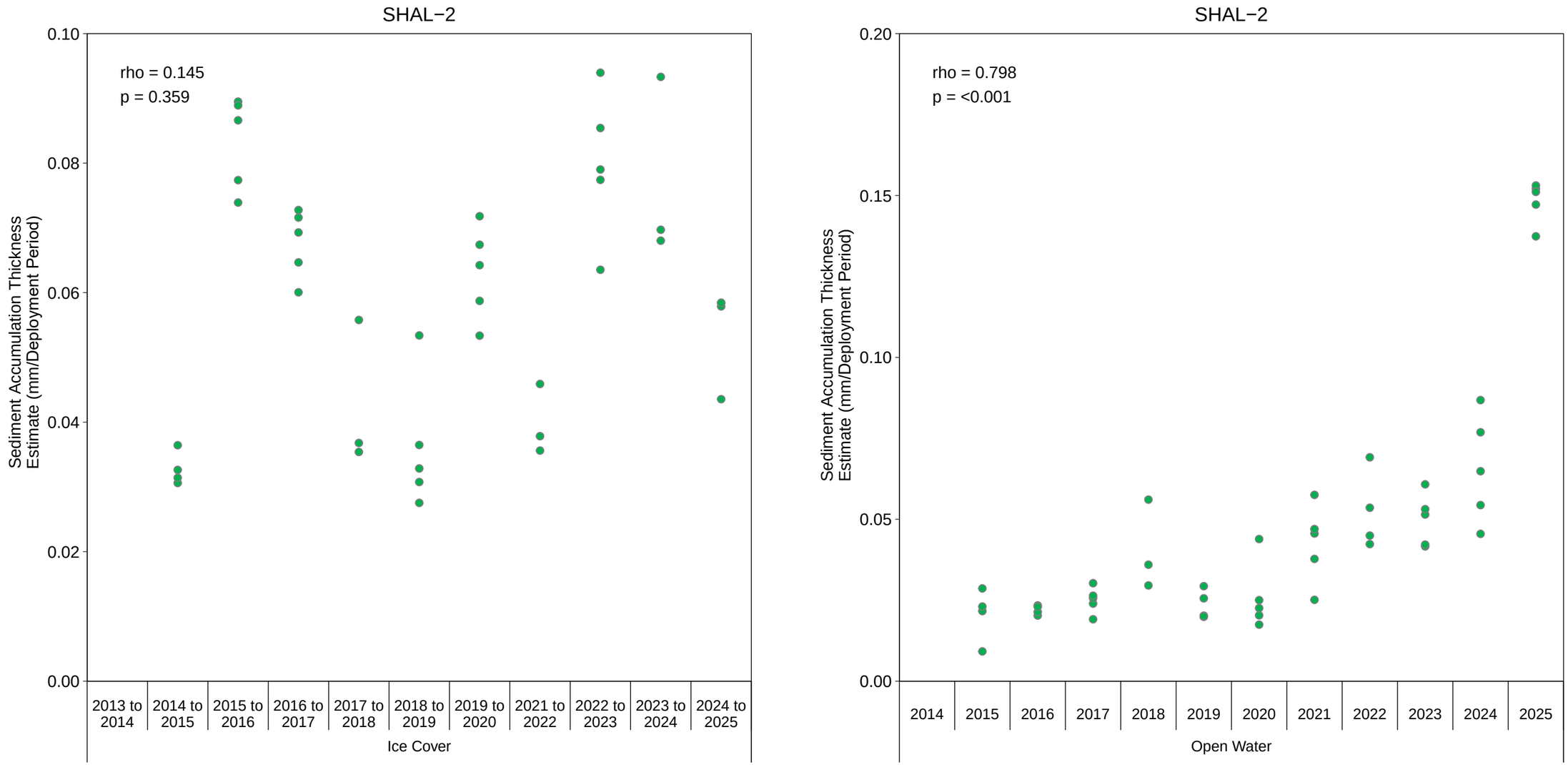


Figure A.2: Sedimentation Accumulation Thickness Estimates (mm/Deployment Period) During Periods of Ice Cover and Open Water at Sheardown Lake Northwest (NW), Sheardown Lake NW Sedimentation Monitoring Study, 2013 to 2025

Notes: P−values and rho values are calculated using a Spearman's correlation. SHAL−1 and DEEP−1 correlations were run without the anomalously high values in 2022/2023 and 2021/2022, respectively, and this did not change the outcome of the correlation.

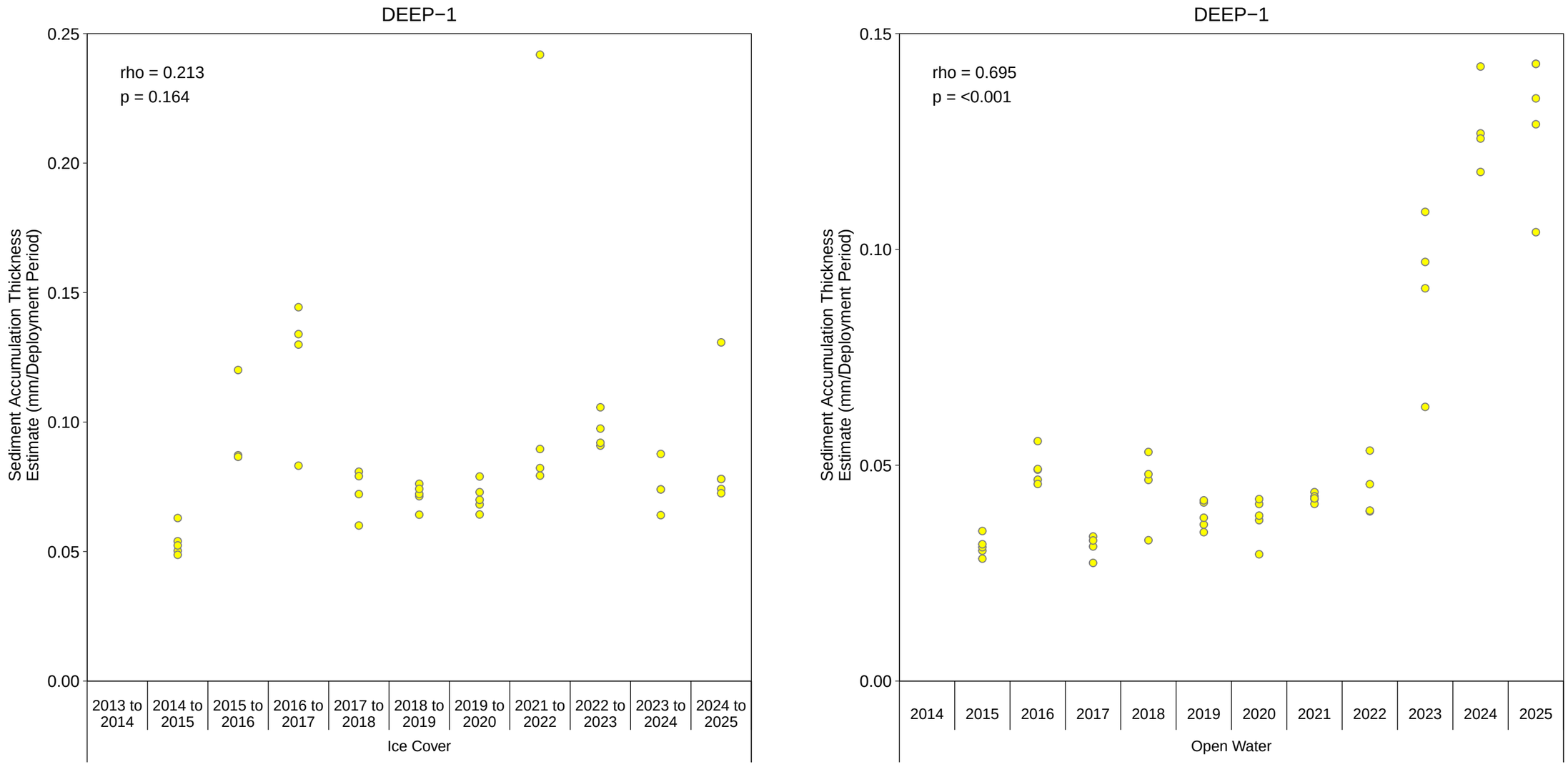


Figure A.2: Sedimentation Accumulation Thickness Estimates (mm/Deployment Period) During Periods of Ice Cover and Open Water at Sheardown Lake Northwest (NW), Sheardown Lake NW Sedimentation Monitoring Study, 2013 to 2025

Notes: P−values and rho values are calculated using a Spearman's correlation. SHAL−1 and DEEP−1 correlations were run without the anomalously high values in 2022/2023 and 2021/2022, respectively, and this did not change the outcome of the correlation.

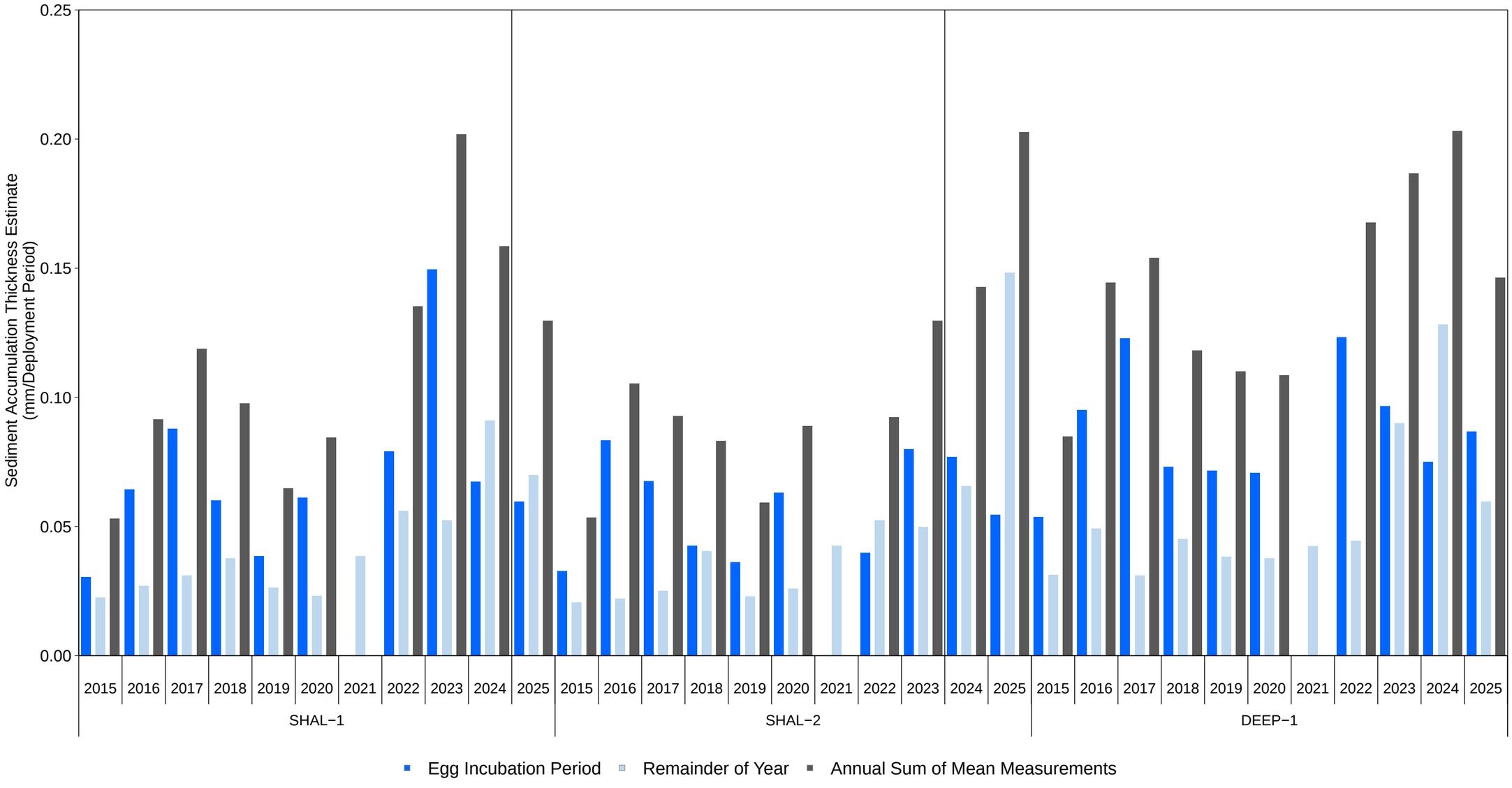


Figure A.3: Mean Sediment Accumulation Thickness Estimates (mm/Deployment Period) for the Arctic Charr Egg Incubation Period (Ice Cover) and the Remainder of the Year (Open Water), Sheardown Lake Northwest (NW), 2015 to 2025

Notes: The egg incubation period corresponds to the ice cover period (October to July). Sediment accumulation thickness estimate data were not available for the ice cover period of 2021.

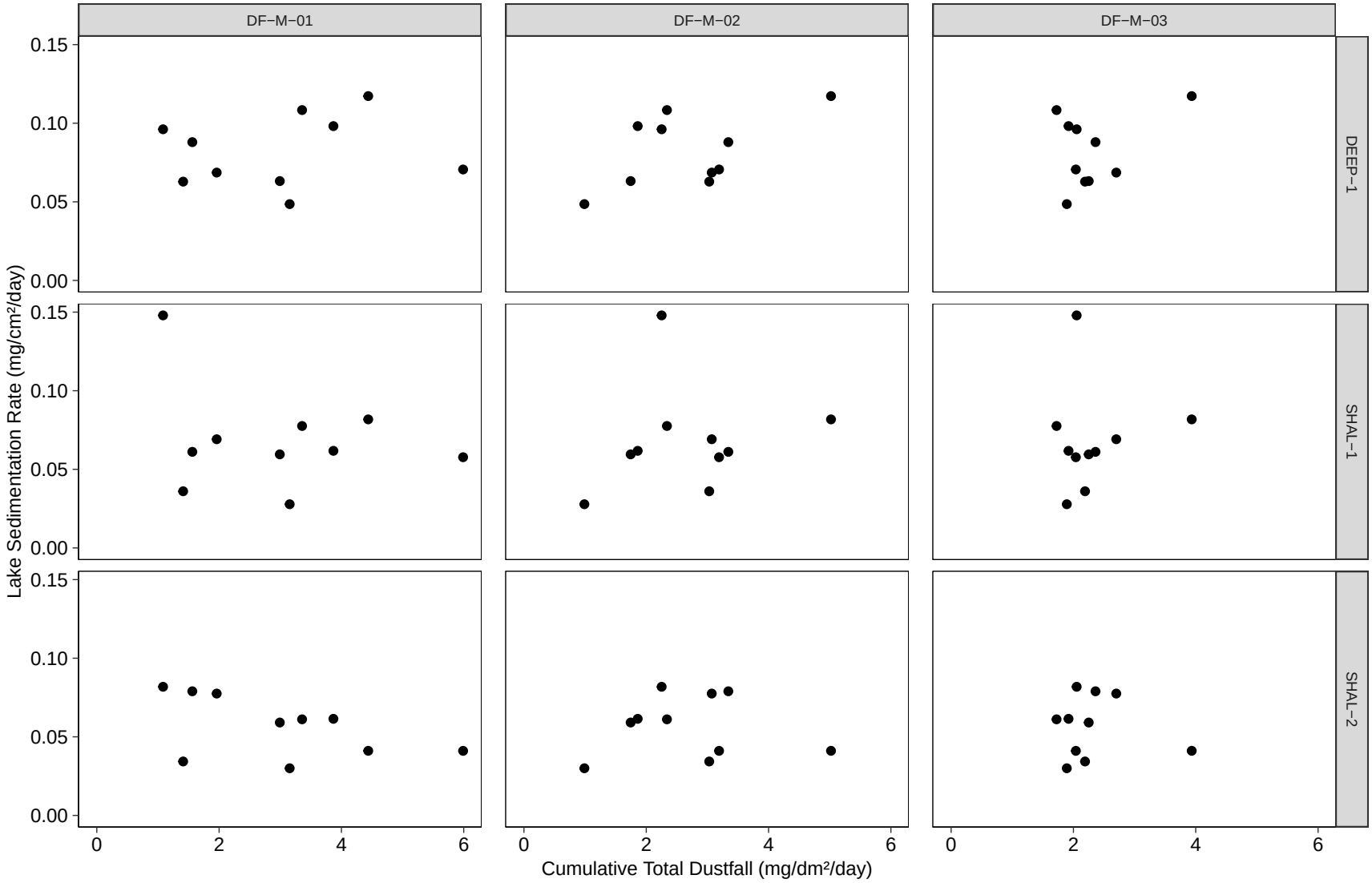


Figure A.4: Comparison of Total Dustfall (mg/dm²/day) to Sedimentation Rate and Sediment Accumulation Thickness Estimates at Sheardown Lake NW, Ice Cover Period, 2014 to 2025

Note: Dustfall data less than the lower reporting limit were replaced with the lower reporting limit for calculation of cumulative dustfall for a given period.

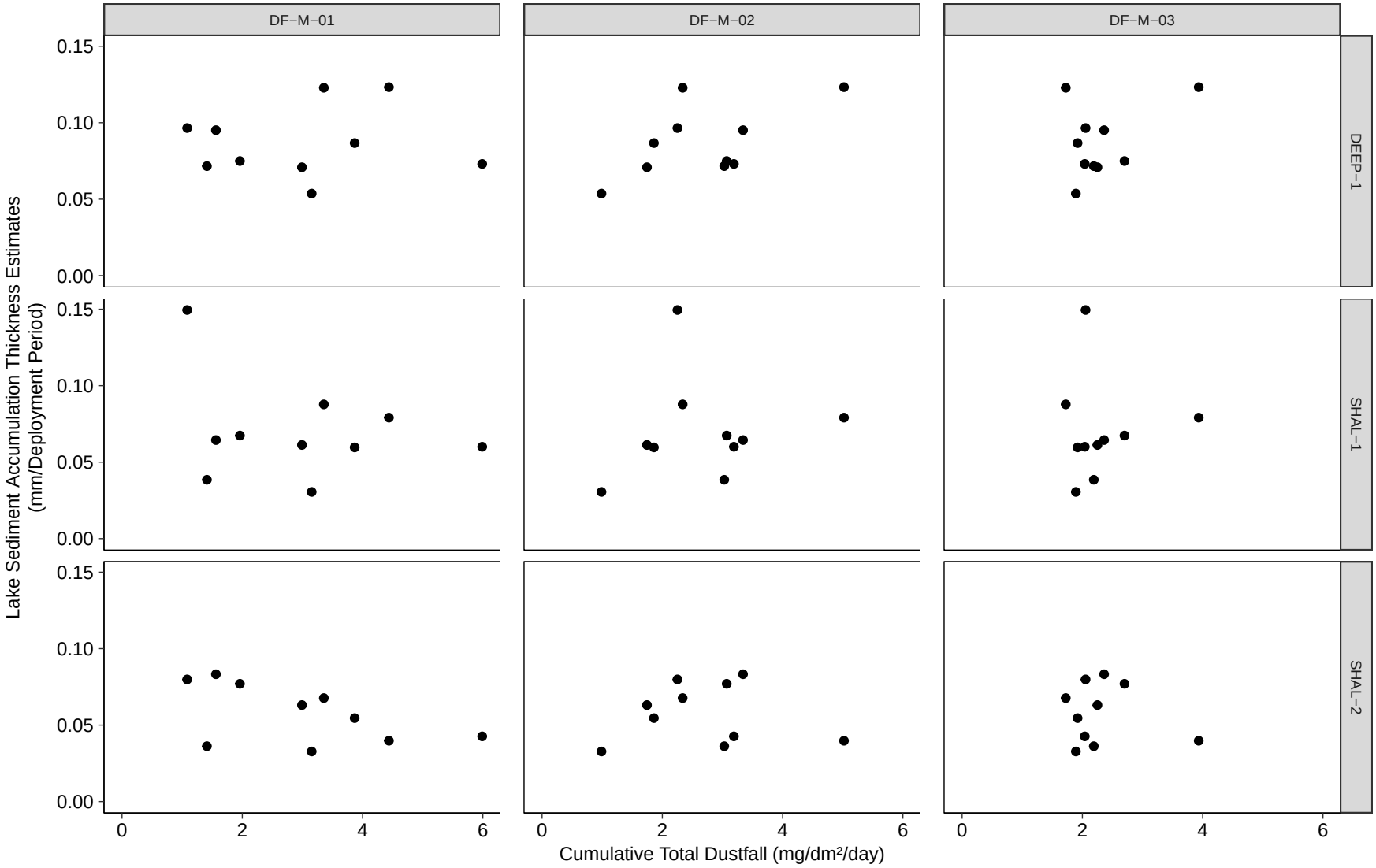


Figure A.4: Comparison of Total Dustfall (mg/dm²/day) to Sedimentation Rate and Sediment Accumulation Thickness Estimates at Sheardown Lake NW, Ice Cover Period, 2014 to 2025

Note: Dustfall data less than the lower reporting limit were replaced with the lower reporting limit for calculation of cumulative dustfall for a given period.

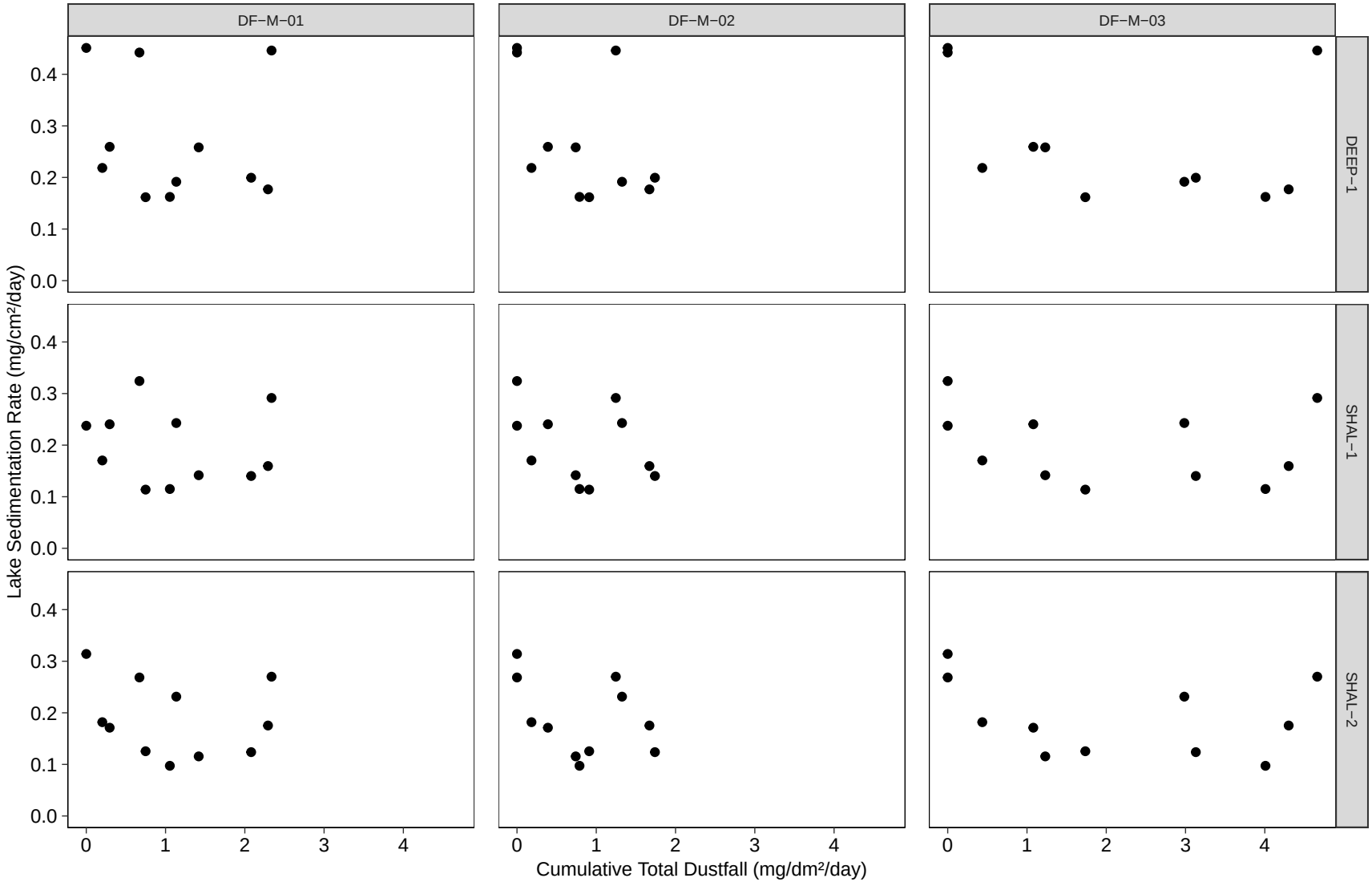


Figure A.5: Comparison of Total Dustfall (mg/dm²/day) to Sedimentation Rate and Sediment Accumulation Thickness Estimates at Sheardown Lake NW, Open Water Period, 2014 to 2025

Note: Dustfall data less than the lower reporting limit were replaced with the lower reporting limit for calculation of cumulative dustfall for a given period.

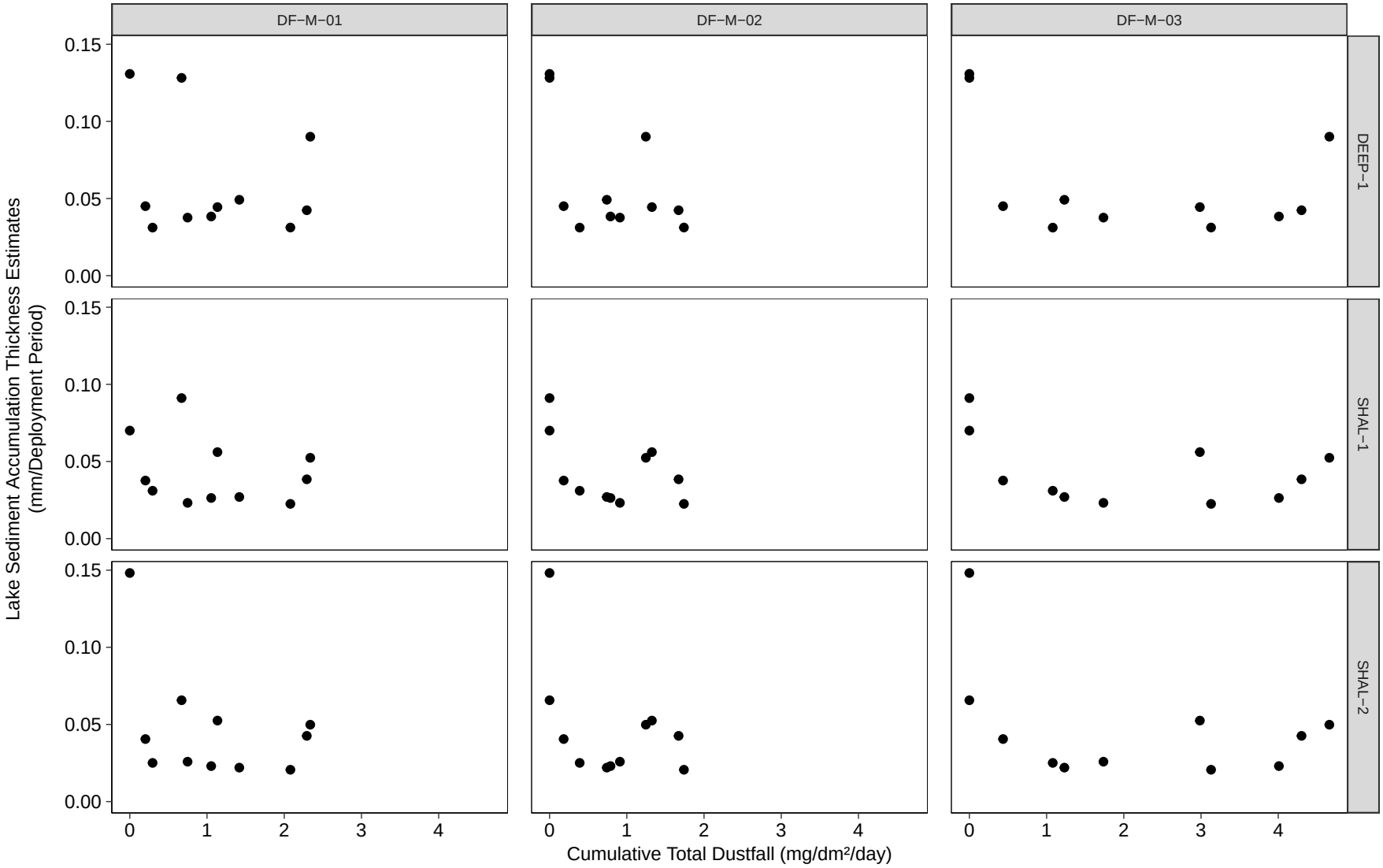


Figure A.5: Comparison of Total Dustfall (mg/dm²/day) to Sedimentation Rate and Sediment Accumulation Thickness Estimates at Sheardown Lake NW, Open Water Period, 2014 to 2025

Note: Dustfall data less than the lower reporting limit were replaced with the lower reporting limit for calculation of cumulative dustfall for a given period.

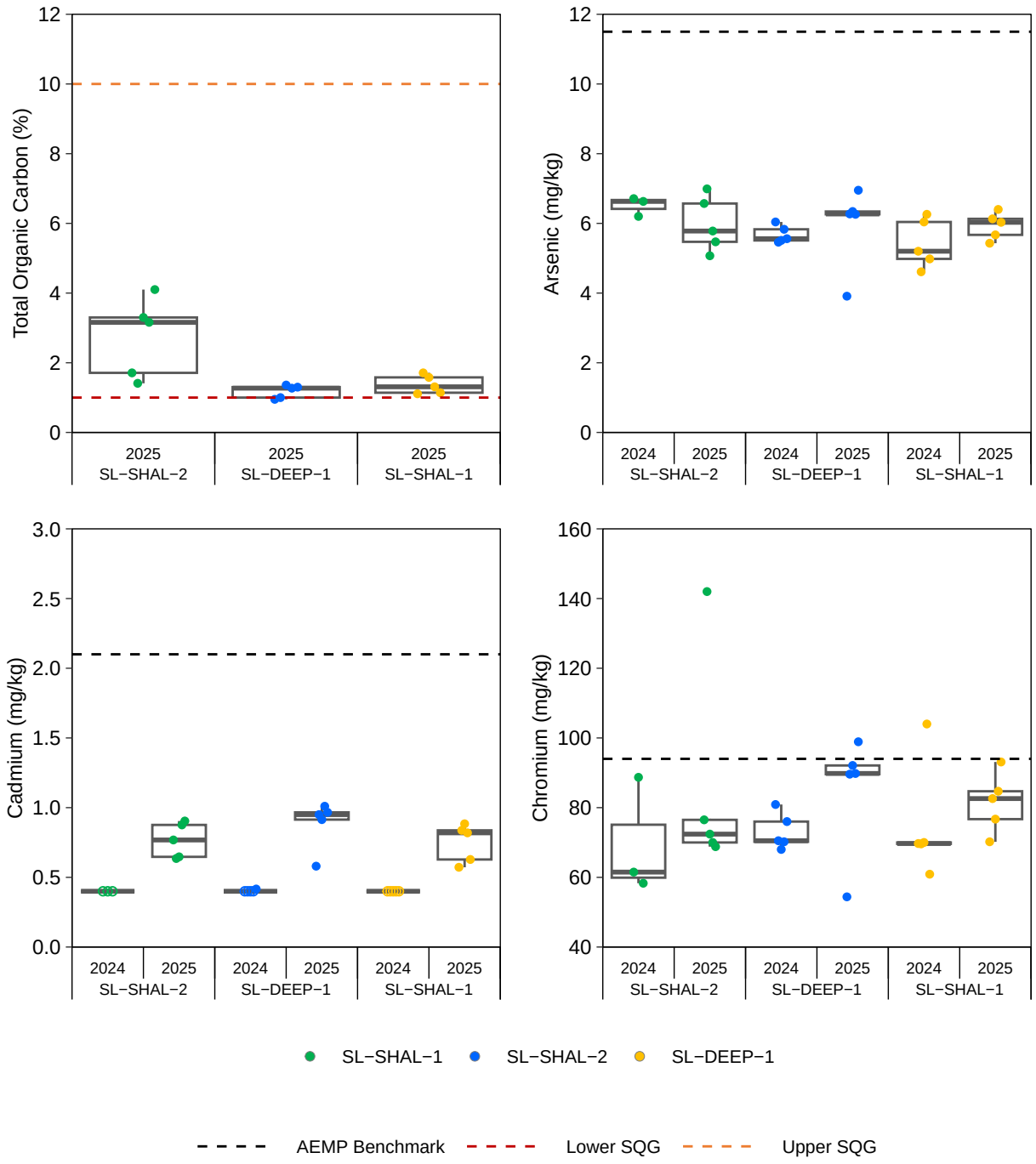


Figure A.6: Sediment Trap Material Chemistry During the Ice Cover Period, 2024 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the ice cover period. AEMP = Aquatic Effects Monitoring Plan (Revision 2; Baffinland 2024). The total organic carbon sediment quality guidelines (SQG) are the Ontario Provincial SQG for the lowest effect level and severe effect level (OMOE 1993). The molybdenum and silver SQG are the lower and upper BC Working SQGs (BCMOE 2025).

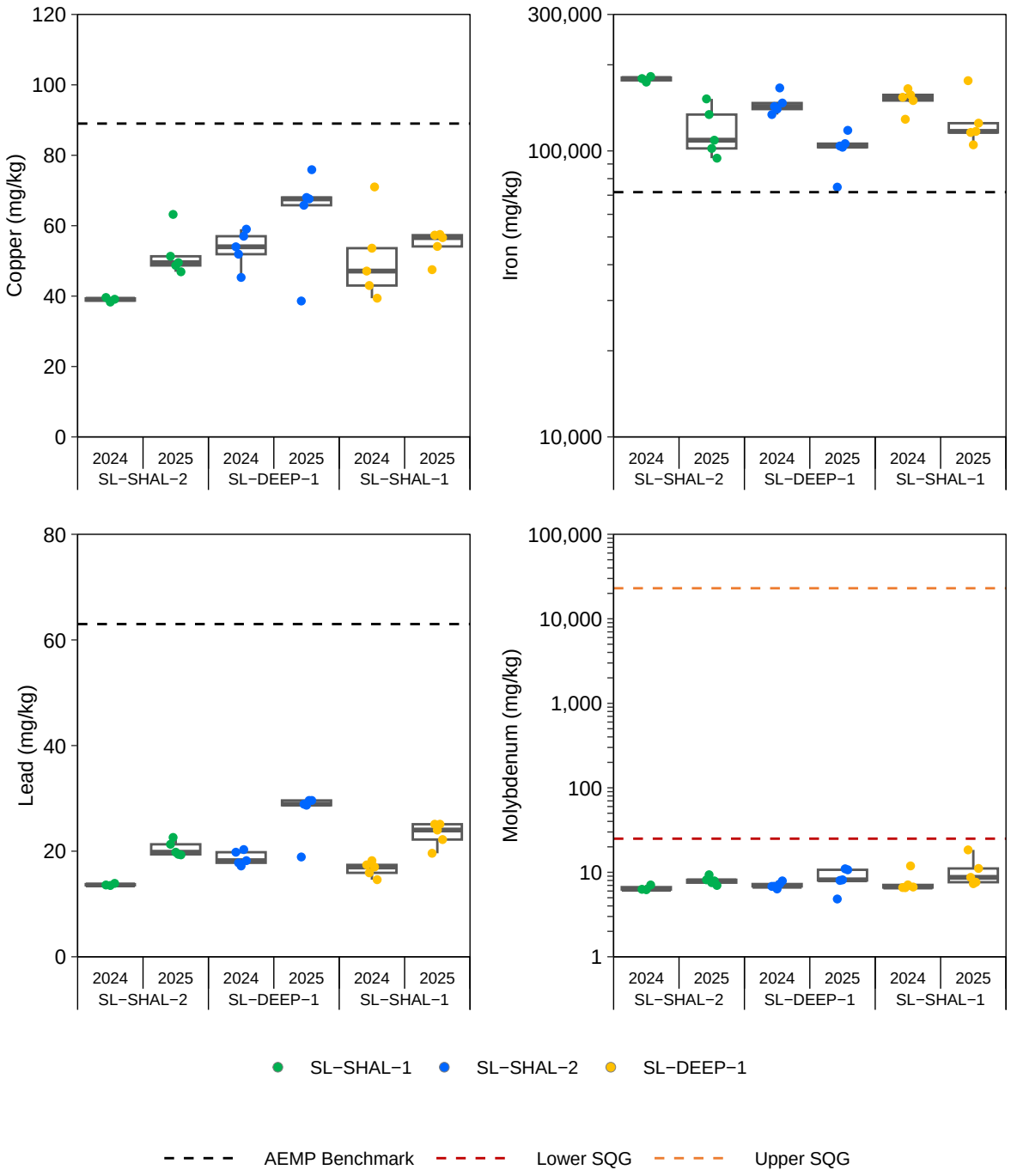


Figure A.6: Sediment Trap Material Chemistry During the Ice Cover Period, 2024 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the ice cover period. AEMP = Aquatic Effects Monitoring Plan (Revision 2; Baffinland 2024). The total organic carbon sediment quality guidelines (SQG) are the Ontario Provincial SQG for the lowest effect level and severe effect level (OMOE 1993). The molybdenum and silver SQG are the lower and upper BC Working SQGs (BCMOE 2025).

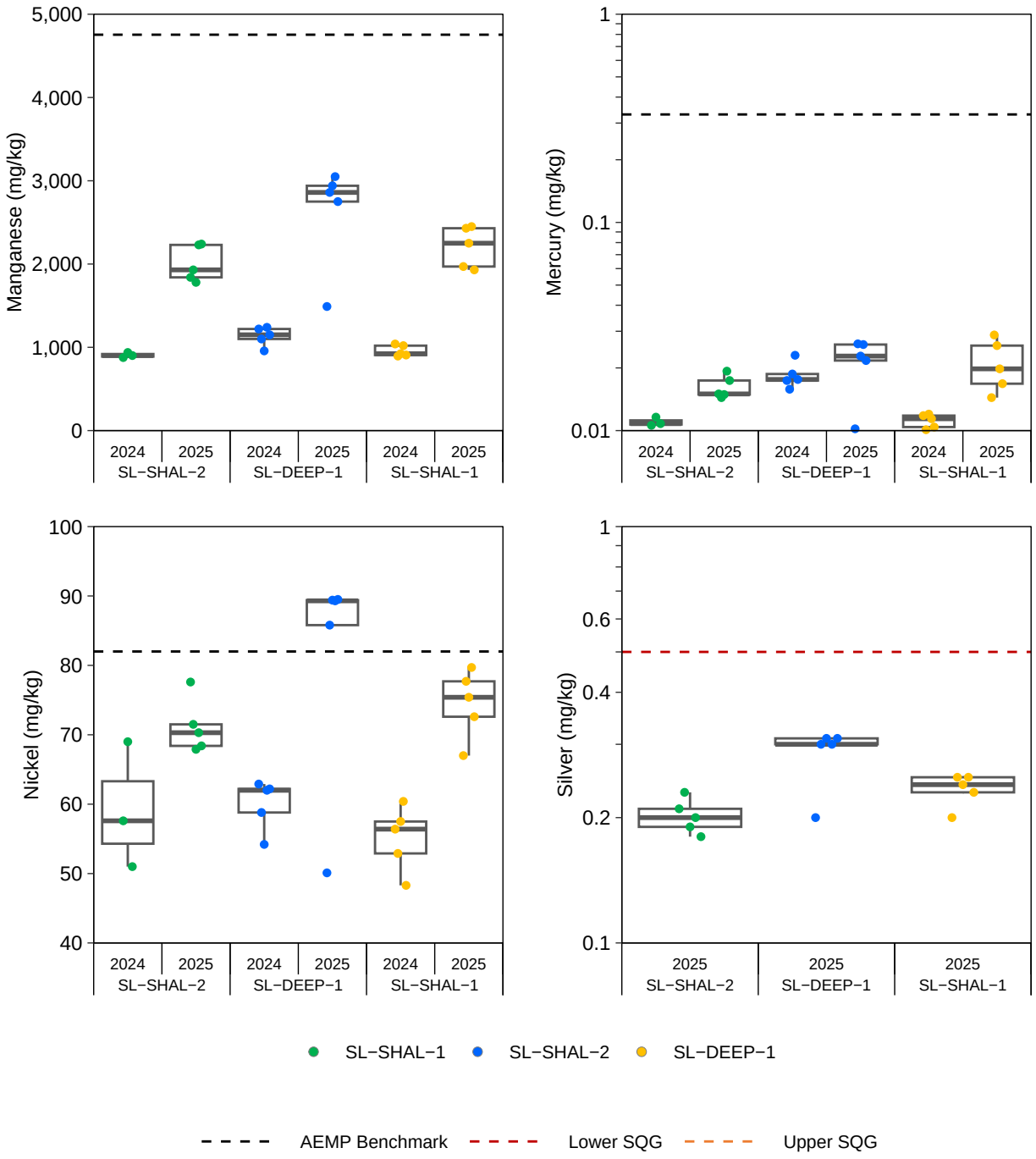


Figure A.6: Sediment Trap Material Chemistry During the Ice Cover Period, 2024 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the ice cover period. AEMP = Aquatic Effects Monitoring Plan (Revision 2; Baffinland 2024). The total organic carbon sediment quality guidelines (SQG) are the Ontario Provincial SQG for the lowest effect level and severe effect level (OMOE 1993). The molybdenum and silver SQG are the lower and upper BC Working SQGs (BCMOE 2025).

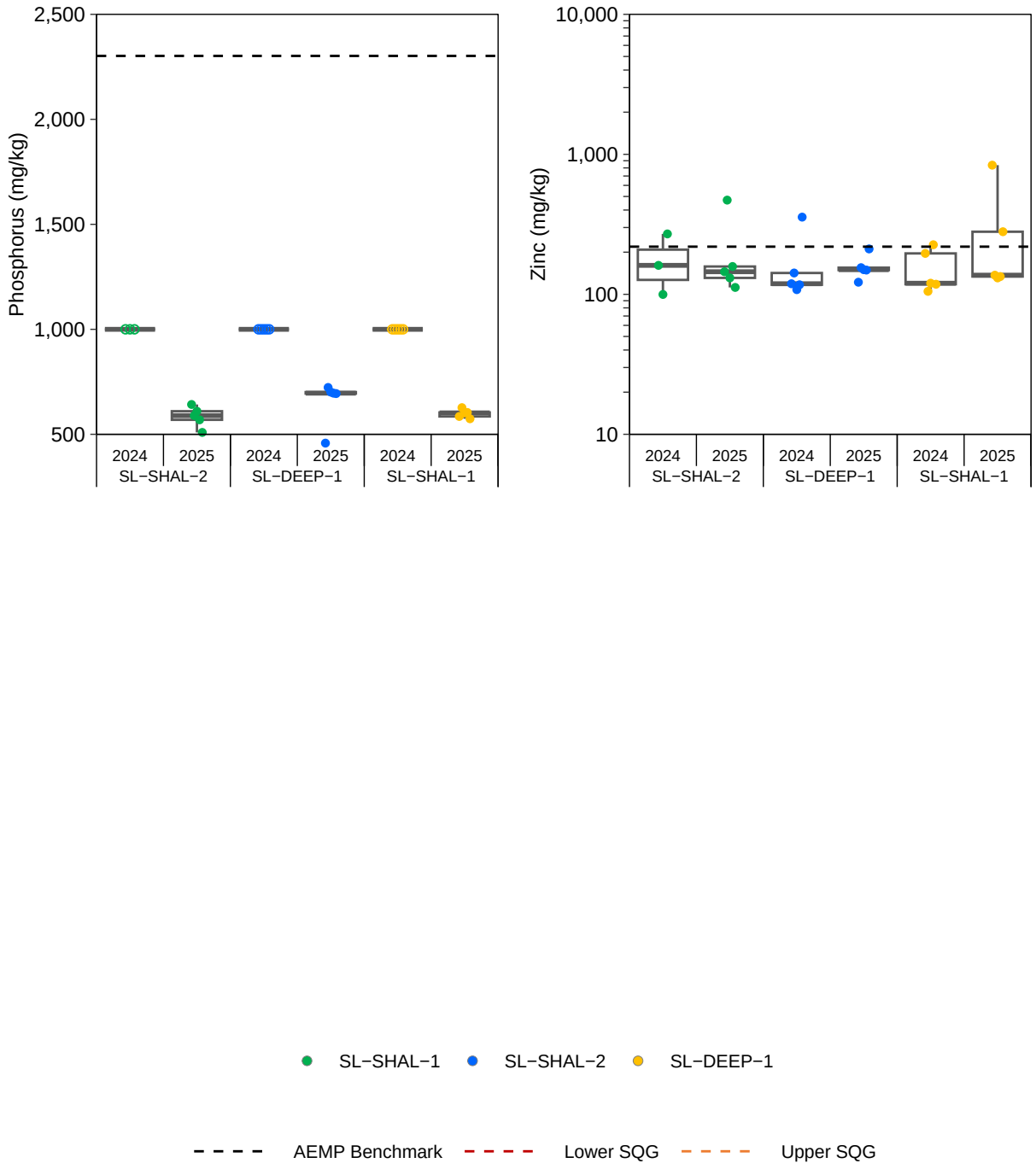


Figure A.6: Sediment Trap Material Chemistry During the Ice Cover Period, 2024 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the ice cover period. AEMP = Aquatic Effects Monitoring Plan (Revision 2; Baffinland 2024). The total organic carbon sediment quality guidelines (SQG) are the Ontario Provincial SQG for the lowest effect level and severe effect level (OMOE 1993). The molybdenum and silver SQG are the lower and upper BC Working SQGs (BCMOE 2025).

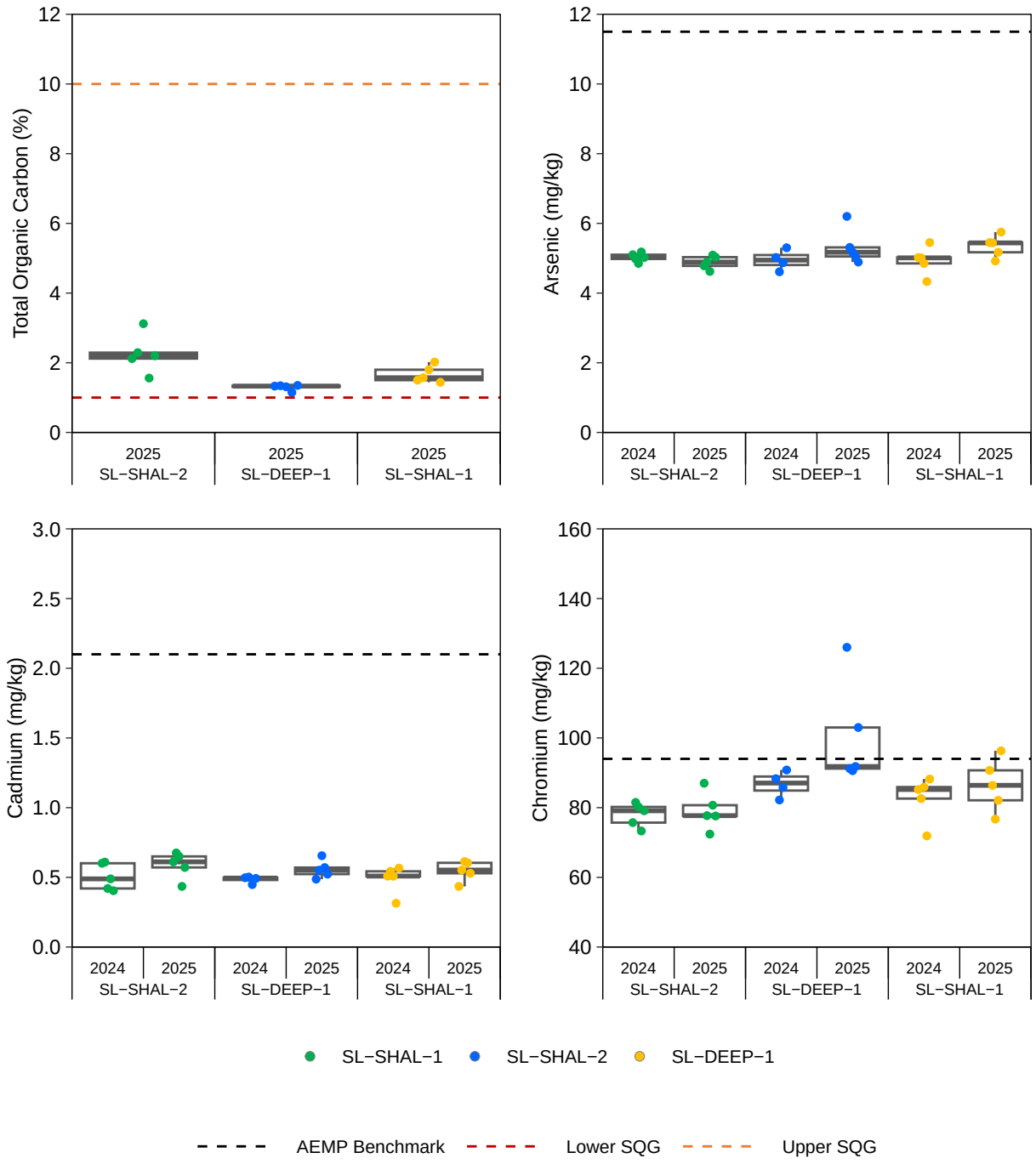


Figure A.7: Sediment Trap Material Chemistry During the Open Water Period, 2024 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the open water period. AEMP = Aquatic Effects Monitoring Plan (Revision 2; Baffinland 2024). The total organic carbon sediment quality guidelines (SQG) are the Ontario Provincial SQG for the lowest effect level and severe effect level (OMOE 1993). The molybdenum and silver SQG are the lower and upper BC Working SQGs (BCMOE 2025).

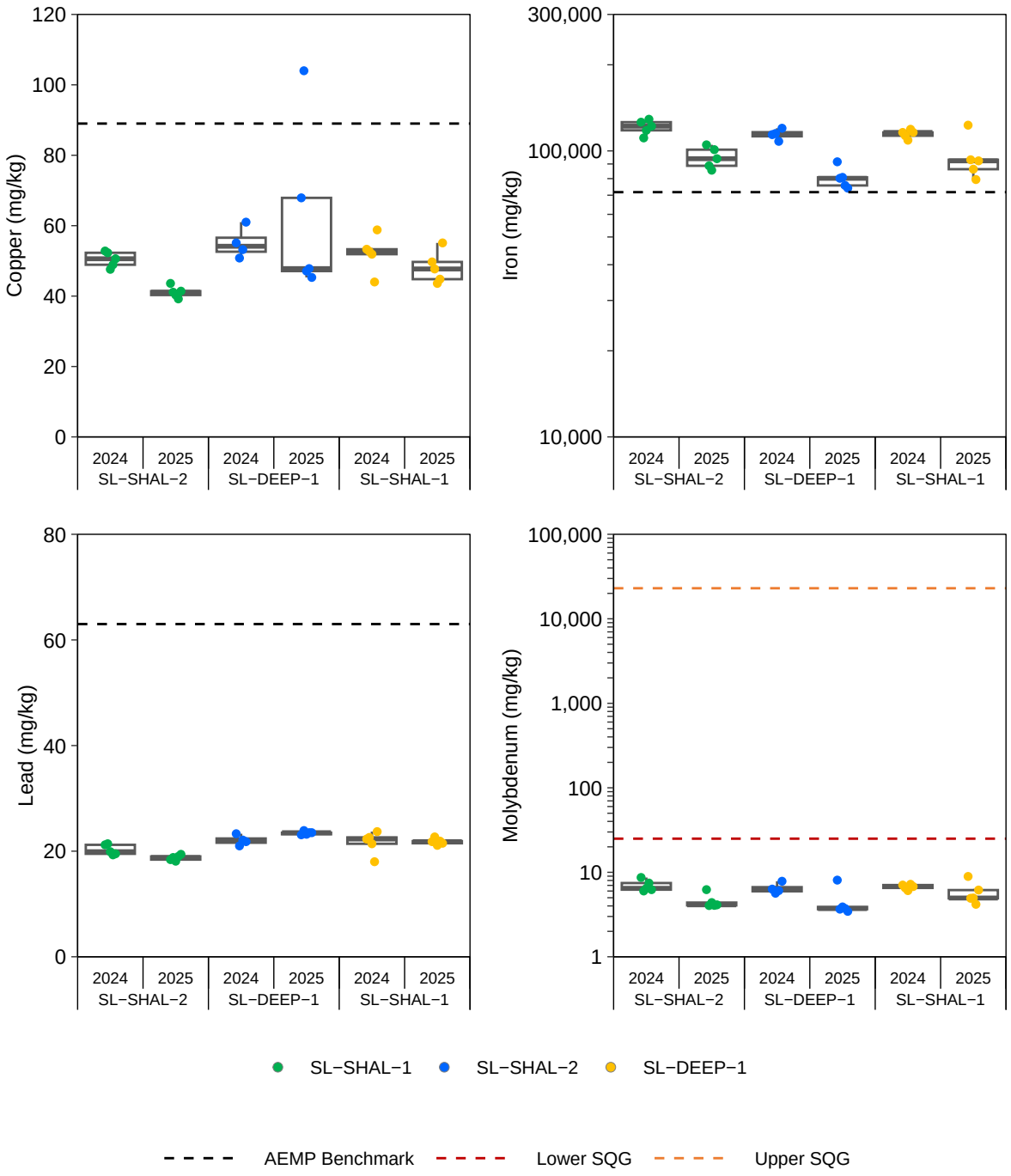


Figure A.7: Sediment Trap Material Chemistry During the Open Water Period, 2024 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the open water period. AEMP = Aquatic Effects Monitoring Plan (Revision 2; Baffinland 2024). The total organic carbon sediment quality guidelines (SQG) are the Ontario Provincial SQG for the lowest effect level and severe effect level (OMOE 1993). The molybdenum and silver SQG are the lower and upper BC Working SQGs (BCMOE 2025).

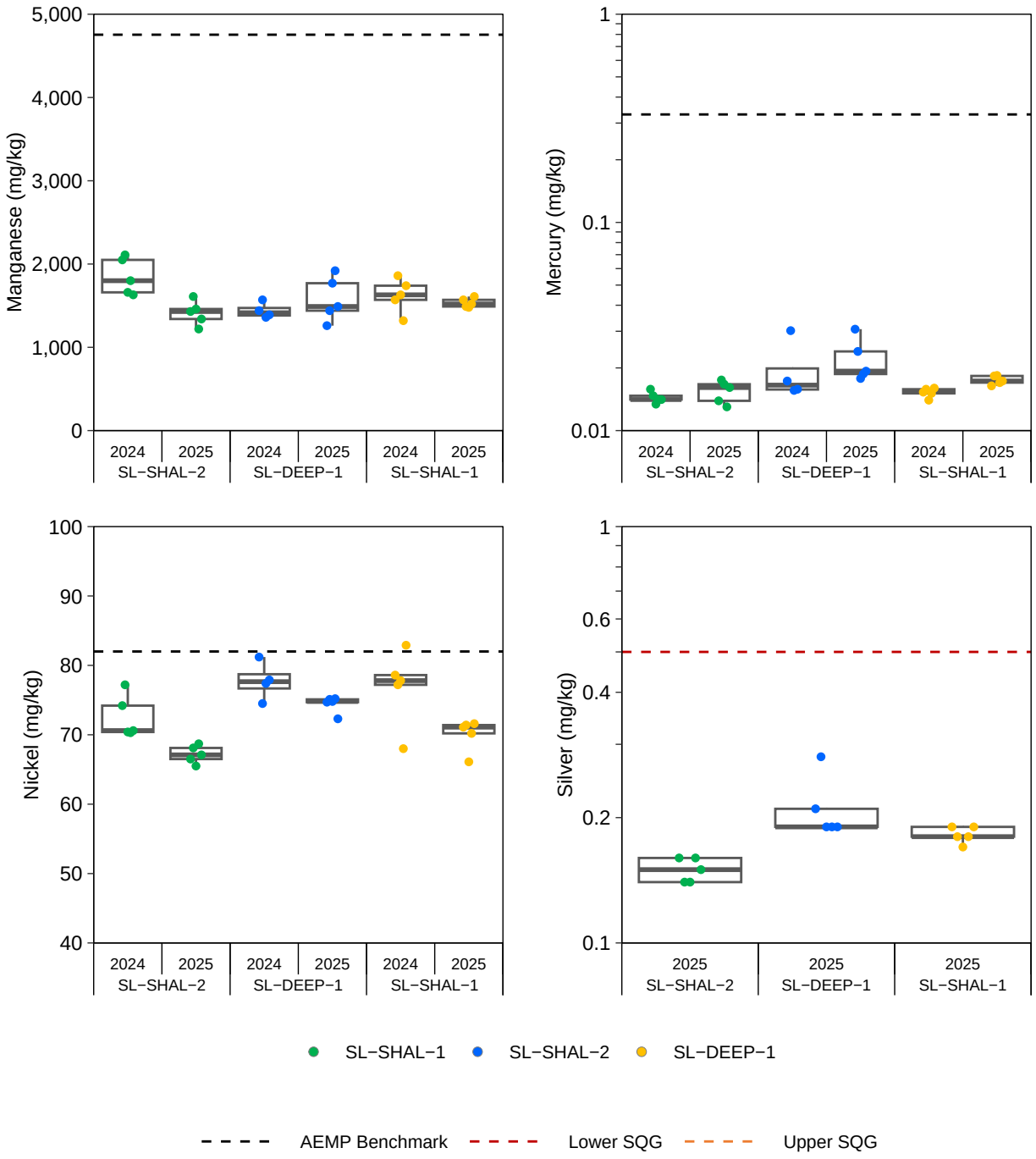


Figure A.7: Sediment Trap Material Chemistry During the Open Water Period, 2024 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the open water period. AEMP = Aquatic Effects Monitoring Plan (Revision 2; Baffinland 2024). The total organic carbon sediment quality guidelines (SQG) are the Ontario Provincial SQG for the lowest effect level and severe effect level (OMOE 1993). The molybdenum and silver SQG are the lower and upper BC Working SQGs (BCMOE 2025).

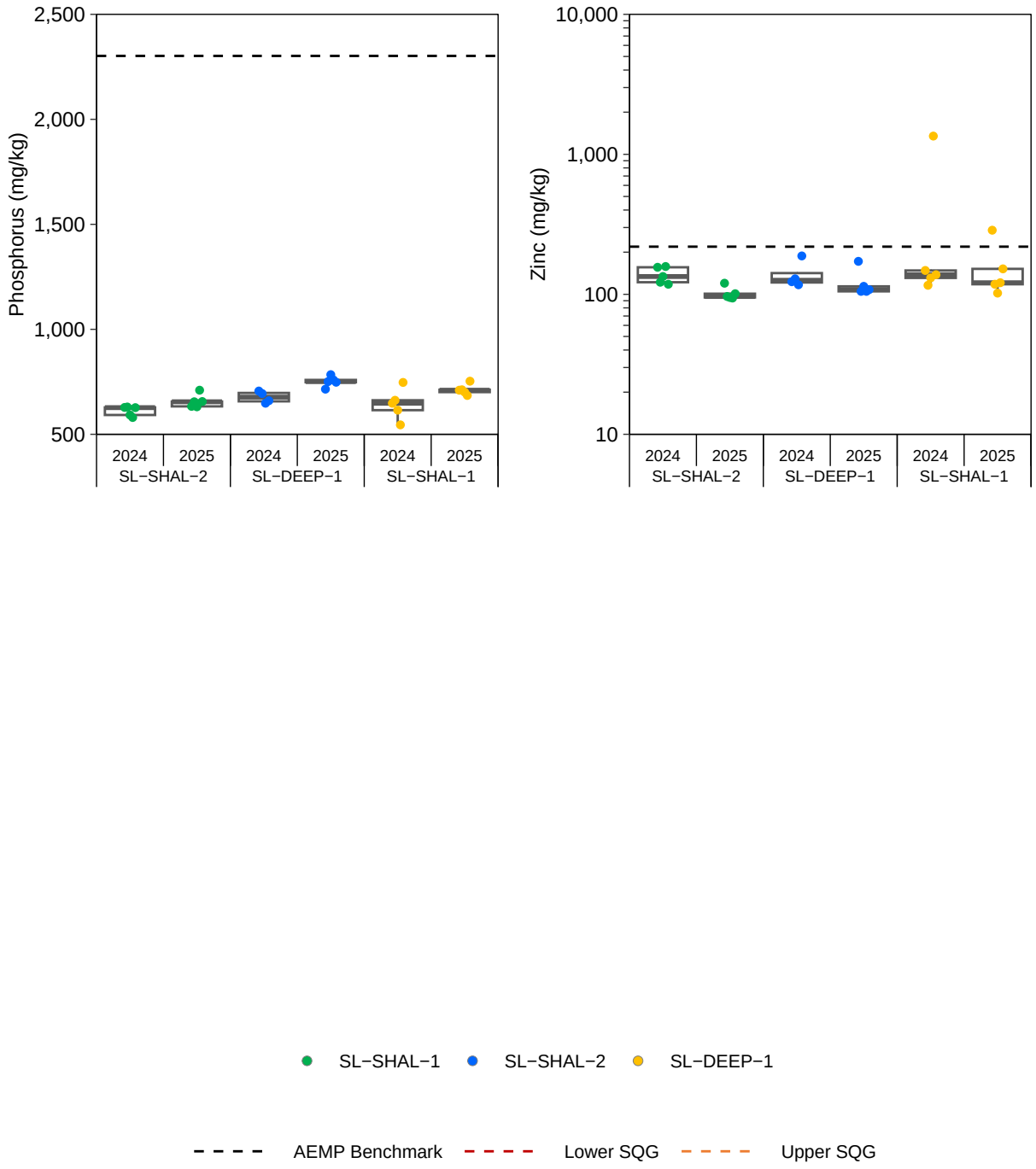


Figure A.7: Sediment Trap Material Chemistry During the Open Water Period, 2024 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the open water period. AEMP = Aquatic Effects Monitoring Plan (Revision 2; Baffinland 2024). The total organic carbon sediment quality guidelines (SQG) are the Ontario Provincial SQG for the lowest effect level and severe effect level (OMOE 1993). The molybdenum and silver SQG are the lower and upper BC Working SQGs (BCMOE 2025).

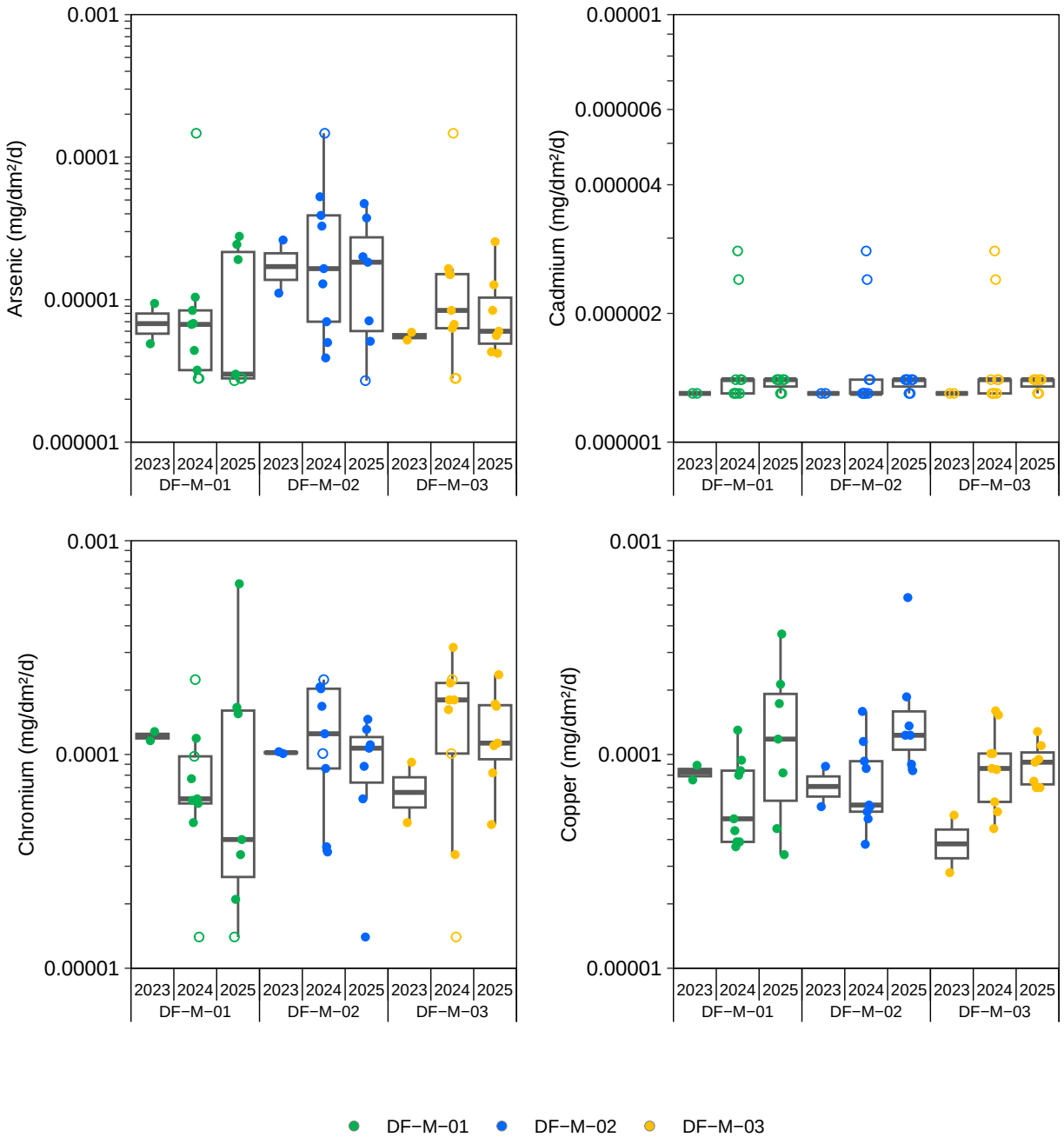


Figure A.8: Dustfall Chemistry During the Ice Cover Period, 2023 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the ice cover period.

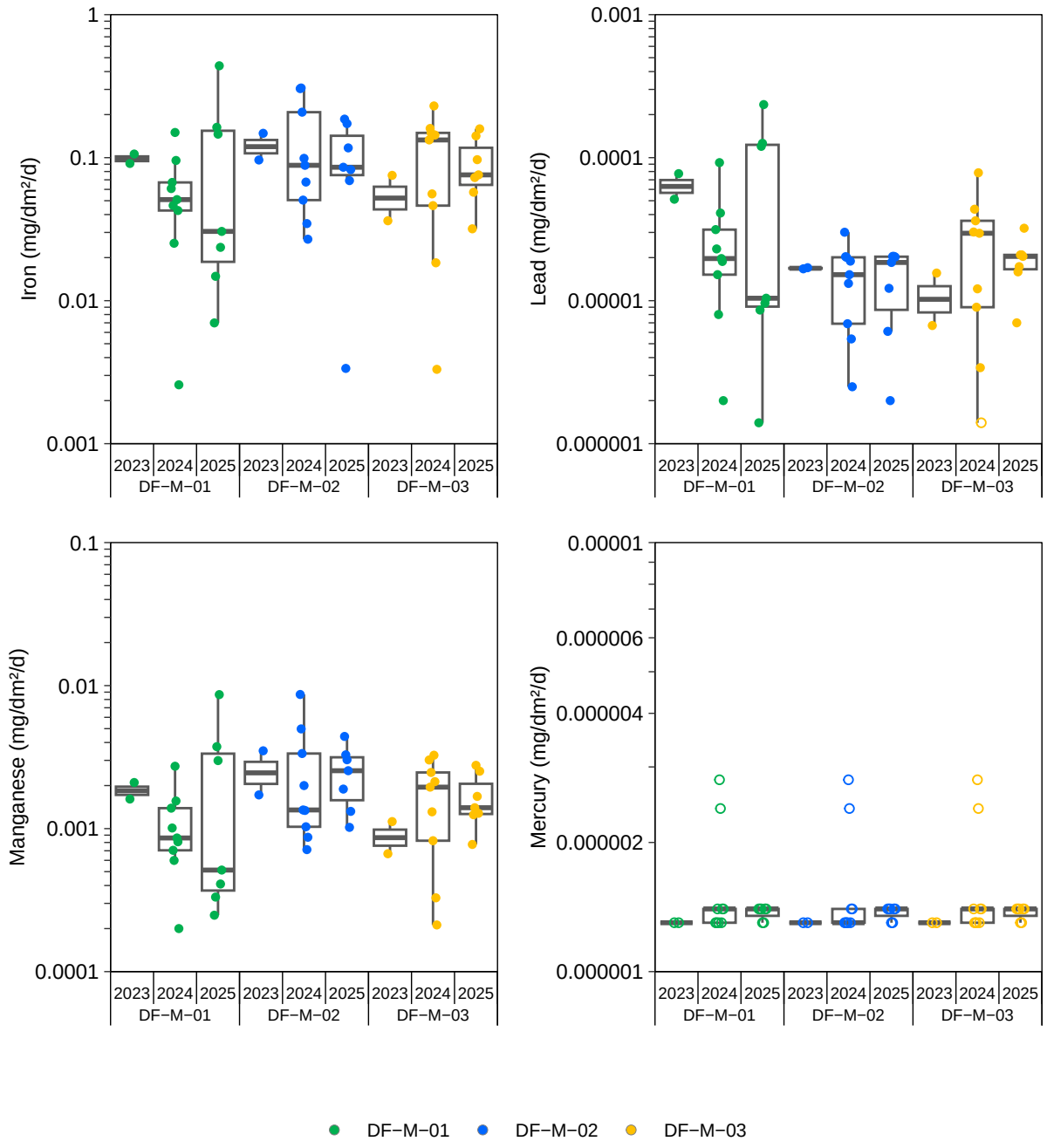


Figure A.8: Dustfall Chemistry During the Ice Cover Period, 2023 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the ice cover period.

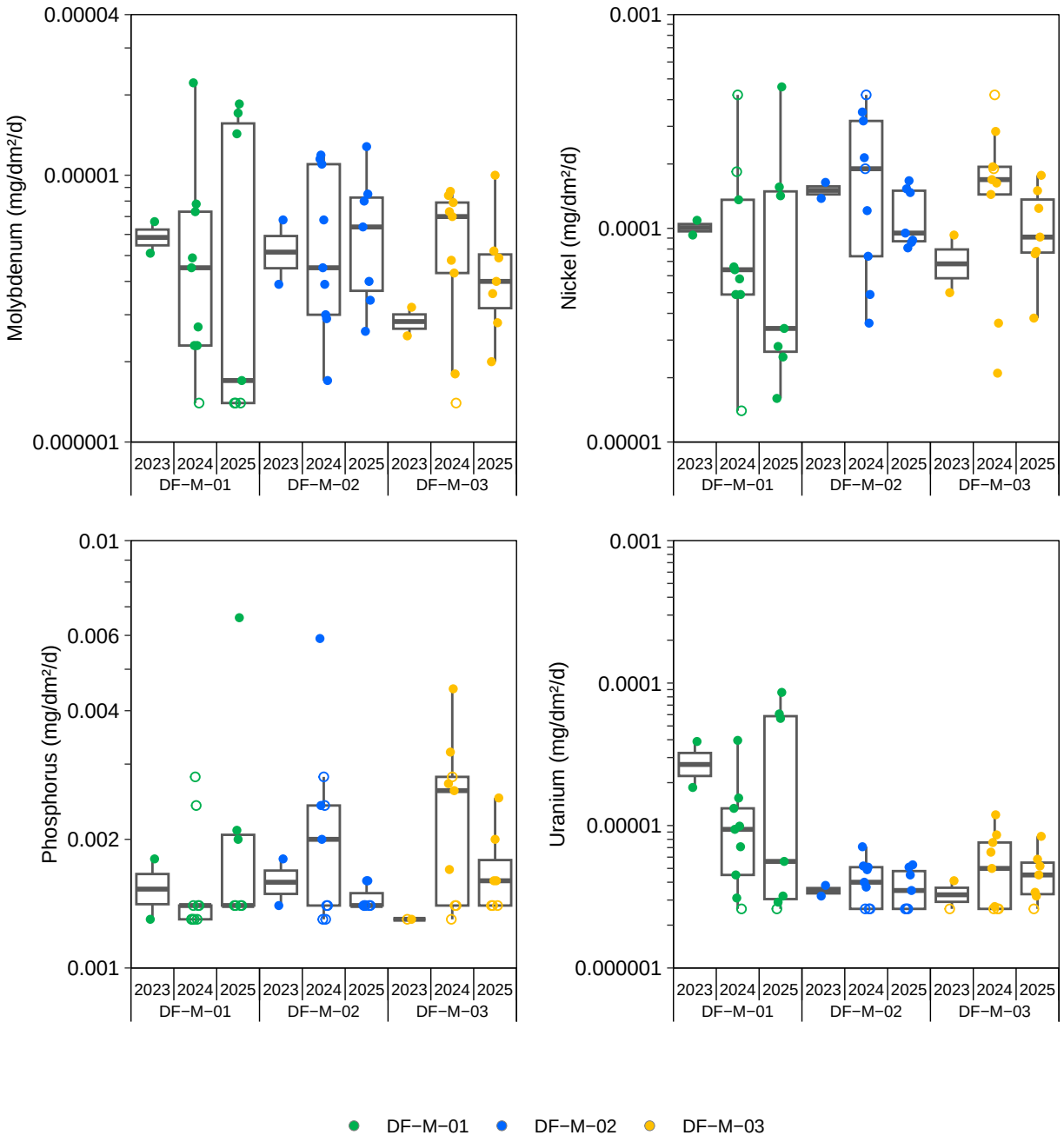


Figure A.8: Dustfall Chemistry During the Ice Cover Period, 2023 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the ice cover period.

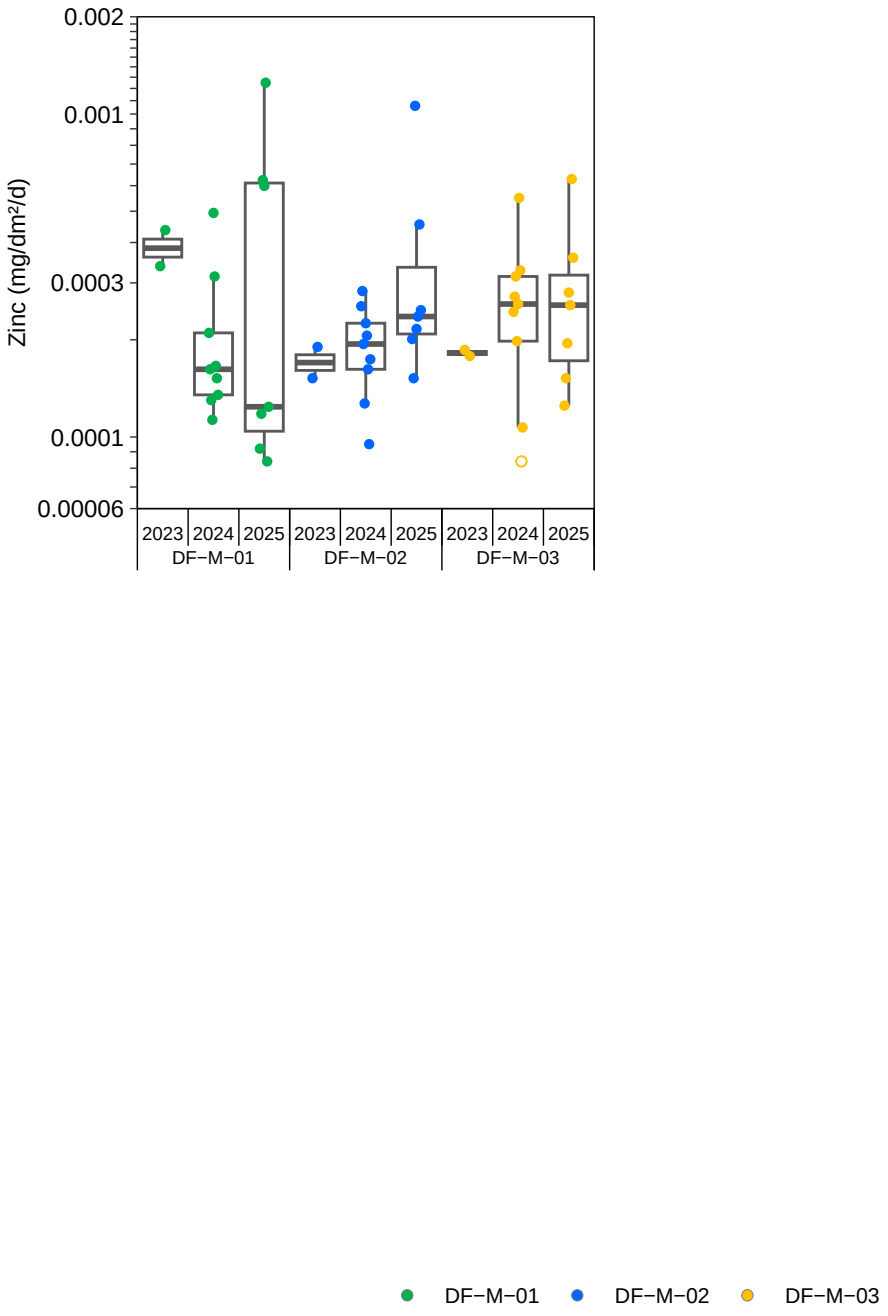


Figure A.8: Dustfall Chemistry During the Ice Cover Period, 2023 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the ice cover period.

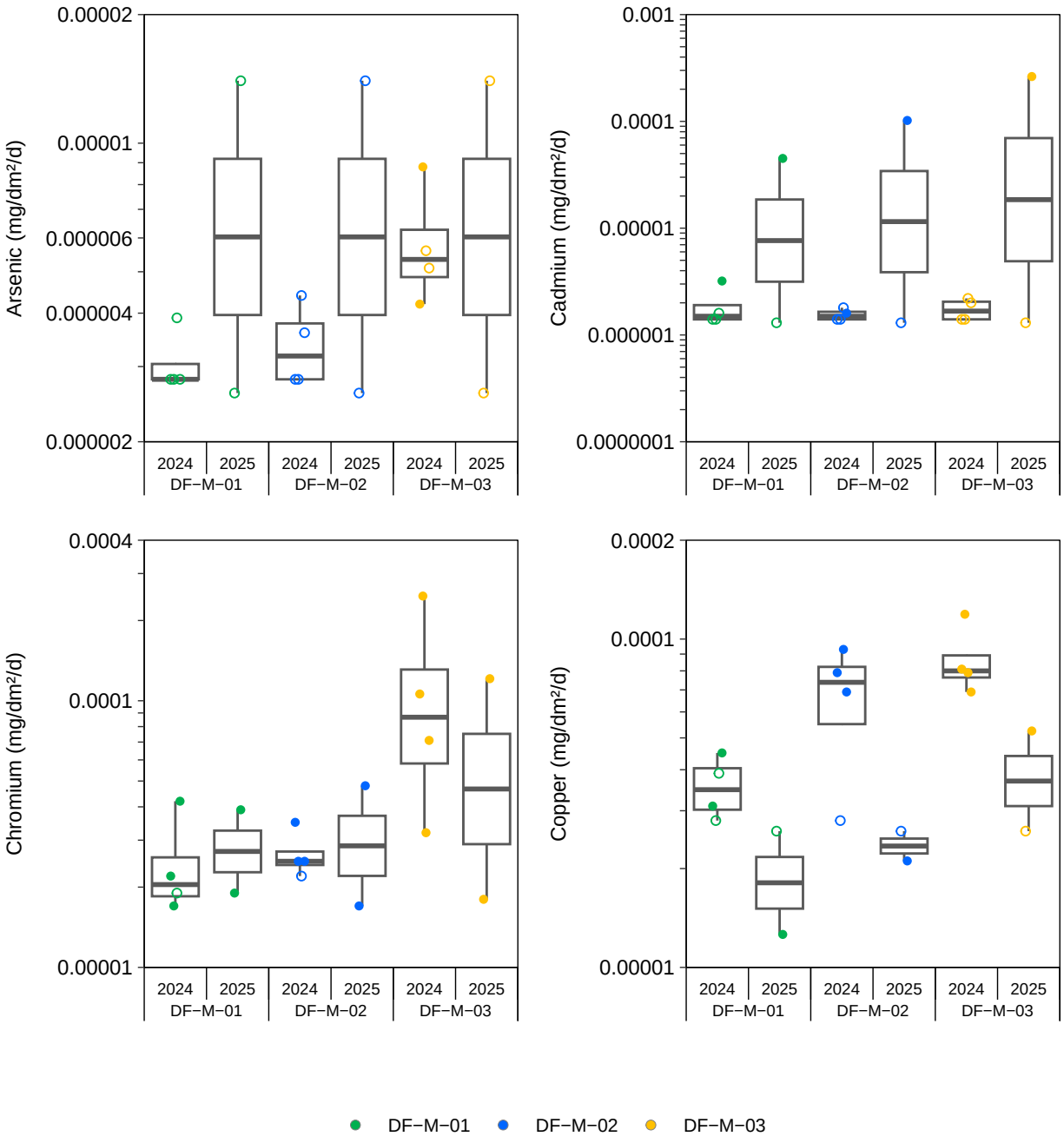


Figure A.9: Dustfall Chemistry During the Open Water Period, 2024 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the open water period.

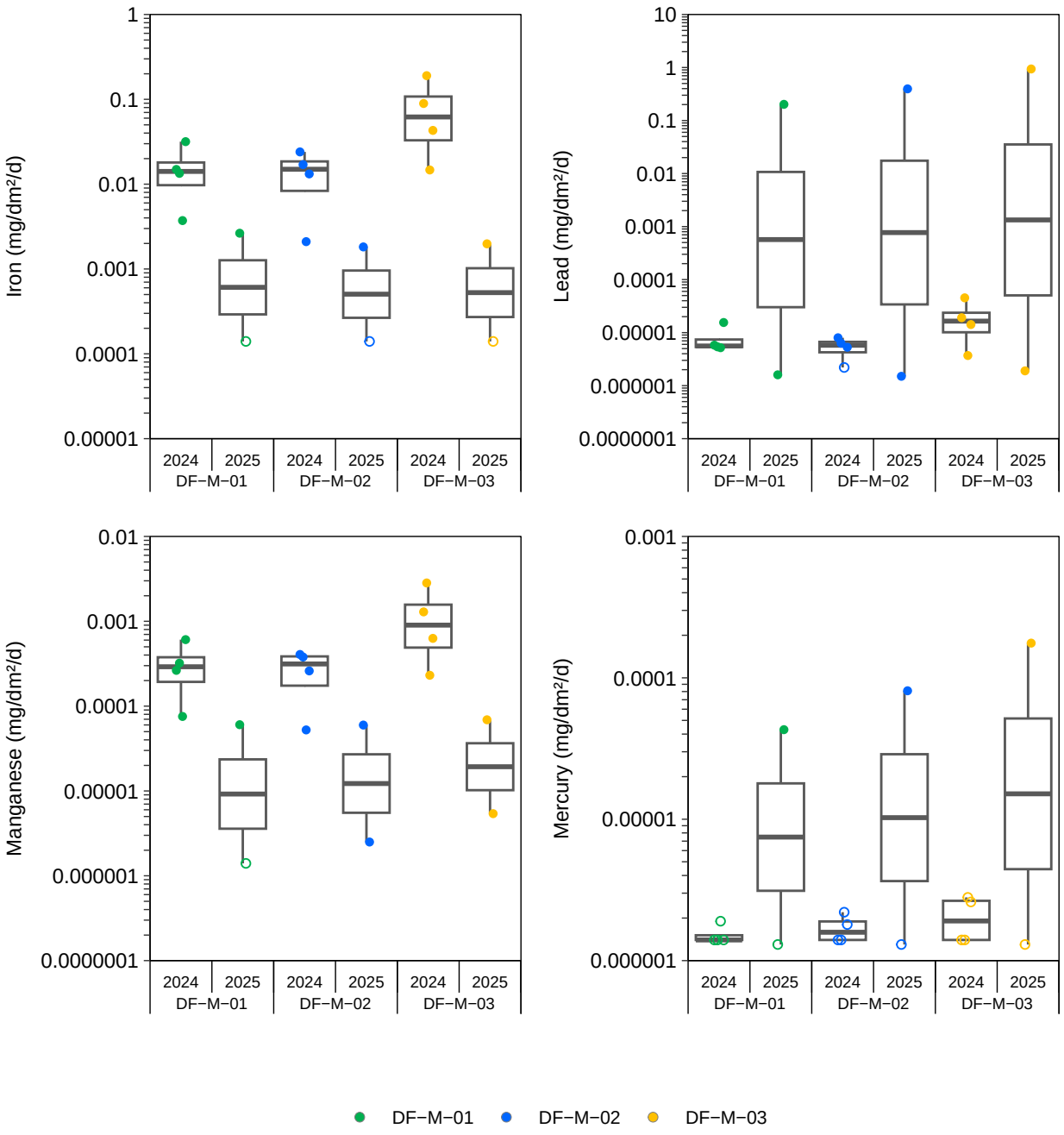


Figure A.9: Dustfall Chemistry During the Open Water Period, 2024 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the open water period.

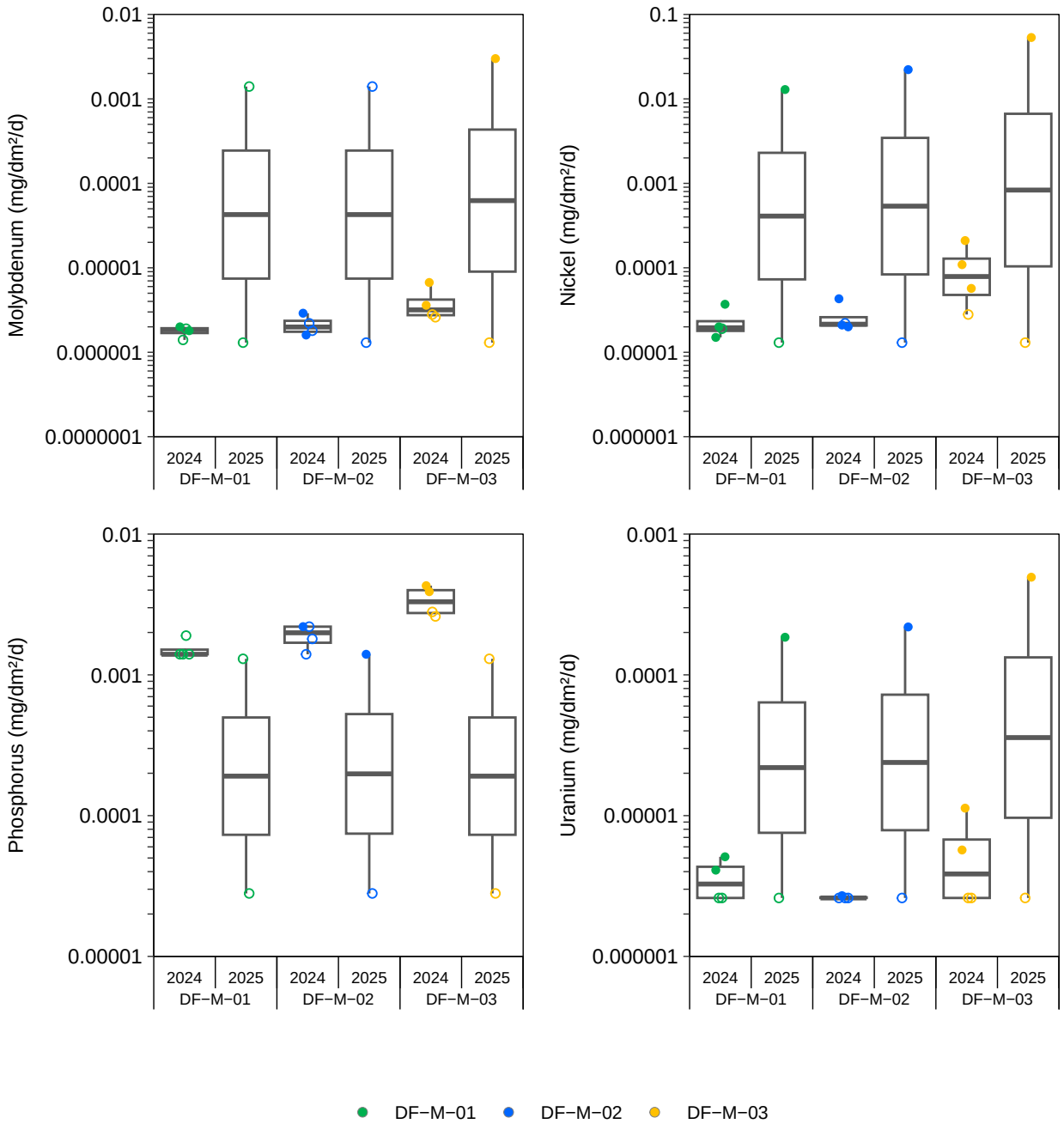


Figure A.9: Dustfall Chemistry During the Open Water Period, 2024 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the open water period.

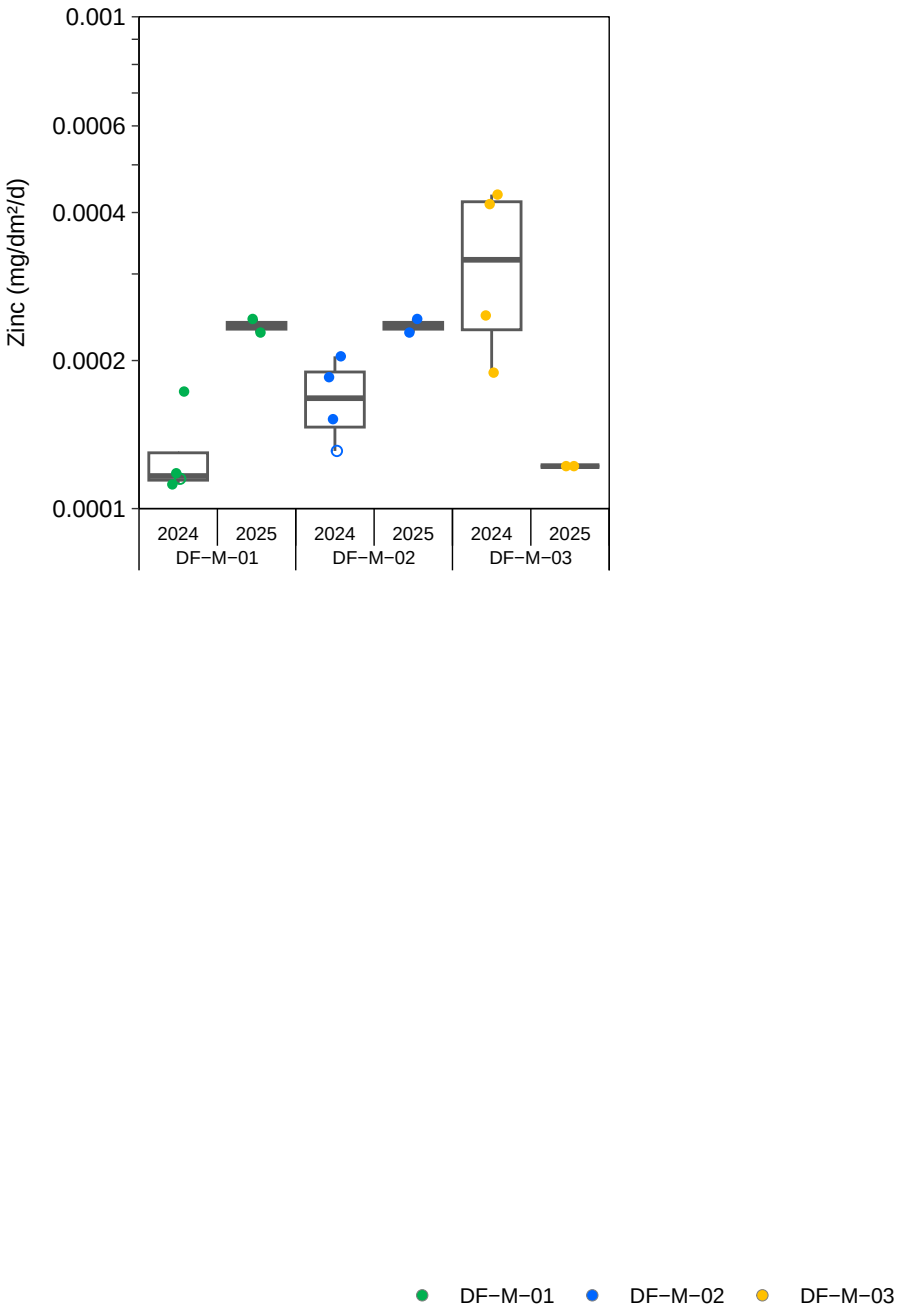


Figure A.9: Dustfall Chemistry During the Open Water Period, 2024 to 2025

Notes: Values below the laboratory reporting limit (LRL) were substituted with the LRL. Boxplots consist of all data for a given area throughout the open water period.

Table A.1: Sedimentation Rate Summary Statistics for Sheardown Lake Northwest (NW) Sediment Trap Monitoring Areas, Lake Sedimentation Monitoring Study, 2024 to 2025

Deployment Period	Area	Sample Size	Units	Mean	Standard Deviation	Standard Error	Minimum	Median	Maximum
Ice Cover 2024 to 2025	SL-SHAL-1	5	$mg/cm^2/day$	0.0618	0.00623	0.00279	0.0511	0.0646	0.0659
	SL-SHAL-2	4	$mg/cm^2/day$	0.0615	0.00824	0.00412	0.0491	0.0651	0.0664
	SL-DEEP-1	5	$mg/cm^2/day$	0.0982	0.0286	0.0128	0.0815	0.0880	0.149
Open Water 2025	SL-SHAL-1	5	$mg/cm^2/day$	0.238	0.0253	0.0113	0.213	0.224	0.270
	SL-SHAL-2	5	$mg/cm^2/day$	0.314	0.0102	0.00456	0.297	0.315	0.323
	SL-DEEP-1	5	$mg/cm^2/day$	0.451	0.0547	0.0245	0.363	0.471	0.494
Annual [a] October 2024 to October 2025	SL-SHAL-1	10	$mg/cm^2/y$	36.1	2.19	0.69	31.4	35.5	39.9
	SL-SHAL-2	9	$mg/cm^2/y$	42.4	4.92	1.64	39.6	42.5	44.3
	SL-DEEP-1	10	$mg/cm^2/y$	62.9	7.67	2.43	52.8	62.5	76.1
	Average (all areas)	**3**	$mg/cm^2/y$	**47.1**	**14.0**	**8.09**	**36.1**	**42.5**	**76.1**

Note: Sample size corresponds to the number of stations (sediment trap replicates). Stations with missing ice cover and open water data were removed from the annual minimum and maximum sedimentation rates.

[a] Annual sedimentation rates are the sum of the rates over the ice cover and open water periods.

Table A.2: Temporal and Spatial Comparison of Sedimentation Rates (mg/cm^2/day) During Ice Cover Periods, Sheardown Lake Northwest (NW), Lake Sedimentation Monitoring Study, 2013 to 2025

ANOVA Model					Year	Temporal Comparison									Spatial Comparison		
						Sedimentation Rate (mg/cm^2/day)			Temporal Difference [a]			MOD Relative to Baseline Year (2013 to 2014) [b]			MOD [c]		
Season	Trans-formation	Area	Year	Area x Year		SHAL-1	SHAL-2	DEEP-1	SHAL-1	SHAL-2	DEEP-1	SHAL-1	SHAL-2	DEEP-1	SHAL-1 vs SHAL-2	SHAL-1 vs DEEP-1	SHAL-2 vs DEEP-1
Ice Cover	rank	<0.001	<0.001	<0.001	2013 to 2014	0.0335	0.0280	0.0485	E	D	E	-	-	-	ns	ns	73.2
					2014 to 2015	0.0188	0.0293	0.0474	E	D	E	ns	ns	ns	ns	ns	ns
					2015 to 2016	0.0619	0.0821	0.0822	D	A	ABC	84.7	193	69.4	32.7	32.8	ns
					2016 to 2017	0.0766	0.0598	0.118	ABC	C	A	129	114	143	-22.0	ns	96.8
					2017 to 2018	0.0577	0.0355	0.0730	CDE	CD	BCD	ns	ns	50.6	ns	ns	106
					2018 to 2019	0.0371	0.0312	0.0641	E	D	DE	ns	ns	ns	ns	72.5	106
					2019 to 2020	0.0568	0.0603	0.0626	D	C	DE	69.6	115	ns	ns	ns	ns
					2021 to 2022	0.0822	0.0387	0.0812	AB	CD	ABC	145	ns	67.4	-52.9	ns	110
					2022 to 2023	0.113	0.0813	0.0947	A	A	A	236	190	95.4	-27.8	ns	ns
					2023 to 2024	0.0693	0.0706	0.0671	BCD	AB	CD	107	152	38.4	ns	ns	ns
					2024 to 2025	0.0646	0.0651	0.0880	CD	BC	AB	92.8	133	81.4	ns	36.2	35.1

P-value <0.05.
Indicates significant difference and later year lower relative to baseline or area B lower relative to area A.
Indicates significant difference and later year higher relative to baseline or area B higher relative to area A.

Notes: ANOVA = Analysis of Variance. mg/cm^2/day = milligrams per square centimetre per day. MOD = Magnitude of Difference. < = less than. - = no data. ns = not significant.

[a] Deployment periods denoted by the same letter do not differ significantly based on tests conducted for each individual area.

[b] MOD is calculated as $((year_{recent} - baseline\ year) / baseline\ year)*100$.

[c] MOD calculated as $((area_B - area_A) / area_A)*100$.

Table A.3: Temporal and Spatial Comparison of Sedimentation Rates (mg/cm^2/day) During Open Water Periods, Sheardown Lake Northwest (NW), Lake Sedimentation Monitoring Study, 2014 to 2025

ANOVA Model					Year	Temporal Comparison									Spatial Comparison		
						Sedimentation Rate (mg/cm^2/day)			Temporal Difference [a]			MOD Relative to Baseline Year (2014) [b]			MOD [c]		
Season	Trans-formation	Area	Year	Area x Year		SHAL-1	SHAL-2	DEEP-1	SHAL-1	SHAL-2	DEEP-1	SHAL-1	SHAL-2	DEEP-1	SHAL-1 vs SHAL-2	SHAL-1 vs DEEP-1	SHAL-2 vs DEEP-1
Open Water	rank	<0.001	<0.001	<0.001	2014	0.0890	0.120	0.133	C	BCD	D	-	-	-	35.4	ns	ns
					2015	0.142	0.134	0.198	BC	CD	BC	60.0	ns	49.0	ns	39.2	47.8
					2016	0.140	0.116	0.257	BC	CD	AB	ns	ns	93.3	ns	83.2	121
					2017	0.234	0.162	0.265	A	BC	AB	162	ns	99.4	-30.8	ns	64.0
					2018	0.170	0.160	0.215	ABC	BC	BC	ns	ns	61.6	ns	ns	ns
					2019	0.113	0.0927	0.164	BC	D	CD	ns	-23.0	ns	ns	44.4	76.6
					2020	0.110	0.109	0.163	BC	CD	CD	ns	ns	ns	ns	48.1	ns
					2021	0.161	0.187	0.175	B	BC	BCD	81.0	ns	31.9	ns	ns	ns
					2022	0.236	0.224	0.183	A	AB	BC	165	85.6	37.5	ns	ns	ns
					2023	0.275	0.280	0.463	A	A	A	209	132	248	ns	ns	ns
					2024	0.308	0.251	0.448	A	A	A	246	108	237	ns	ns	ns
					2025	0.224	0.315	0.471	A	A	A	151	161	254	40.9	111	ns

P-value <0.05.
Indicates significant difference and later year lower relative to baseline or area B lower relative to area A.
Indicates significant difference and later year higher relative to baseline or area B higher relative to area A.

Notes: ANOVA = Analysis of Variance. mg/cm^2/day = milligrams per square centimetre per day. MOD = Magnitude of Difference. < = less than. - = no data. ns = not significant.

[a] Deployment periods denoted by the same letter do not differ significantly based on tests conducted for each individual area.

[b] MOD is calculated as (($year_{recent}$ - baseline year) / baseline year)*100.

[c] MOD calculated as (($area_B$ - $area_A$) / $area_A$)*100.

Table A.4: Statistical Comparison of Sedimentation Rate (mg/cm^2/day) Among Seasons (Ice Cover and Open Water) at Sheardown Lake Northwest (NW) Sediment Trap Monitoring Areas, 2024 to 2025

Area	Overall 2-group Comparison					
	Statistical Test [a]	Transformation	Measure of Central Tendency		P-value	MOD [b]
			Open Water	Ice Cover		
SL-SHAL-1	t-test (equal)	none	0.238	0.0618	0.001	285
SL-SHAL-2	M-W	rank	0.315	0.0651	0.016	384
SL-DEEP-1	t-test (equal)	none	0.451	0.0982	0.001	360

Significant difference between study areas based on p-value <0.05.
P-value <0.05 and positive MOD (open water > ice cover).
P-value <0.05 and negative MOD (open water < ice cover).

Notes: MOD = Magnitude of Difference. < = less than. > = greater than. The measure of central tendency (MCT) is the arithmetic mean for non-transformed data, geometric mean for $\log_{10}$ transformed data, and the median for rank-transformed data.

[a] Statistical tests include paired t-test (for unequal or equal variance) and Mann-Whitney (M-W) pair-wise tests.

[b] MOD = ((Open Water - Ice Cover)/Ice Cover)*100.

Table A.5: Sediment Accumulation Thickness Estimate (mm) Summary Statistics for Sheardown Lake Northwest (NW), Lake Sedimentation Monitoring Study, 2024 to 2025

Deployment Period	Area	Sample Size	Mean	Standard Deviation	Standard Error	Minimum	Median	Maximum	Accumulation During the Open Water Period (%) [a]
Ice Cover 2024 to 2025	SL-SHAL-1	5	0.0597	0.00588	0.00263	0.0496	0.0628	0.0634	-
	SL-SHAL-2	4	0.0546	0.00735	0.00368	0.0435	0.0582	0.0584	-
	SL-DEEP-1	5	0.0867	0.0248	0.0111	0.0725	0.0780	0.131	-
Open Water 2025	SL-SHAL-1	5	0.0700	0.00823	0.00368	0.0634	0.0647	0.0802	-
	SL-SHAL-2	5	0.148	0.00644	0.00288	0.137	0.151	0.153	-
	SL-DEEP-1	5	0.131	0.0161	0.00720	0.104	0.135	0.143	-
Annual September 2024 to October 2025	SL-SHAL-1	10	0.130	0.00868	0.00274	0.113	0.128	0.144	54.0
	SL-SHAL-2	9	0.203	0.0498	0.0166	0.181	0.209	0.211	73.1
	SL-DEEP-1	10	0.217	0.0304	0.00963	0.176	0.213	0.274	60.1
	Average (all areas)	**3**	**0.183**	**0.0470**	**0.0271**	**0.113**	**0.209**	**0.274**	**70.8**

Notes: "-" = data not reported. Sample size corresponds to the number of stations (sediment trap replicates). Average sediment accumulation thickness estimates during the ice cover and open water periods were calculated from the mean of ice cover and open water sediment accumulation thickness estimates for each sediment monitoring area.

[a] The proportion of estimated sediment accumulated for SHAL-1, SHAL-2, and DEEP-1 during the 2025 open water period was calculated as a percentage of the quotient of the sediment accumulation thickness estimates during the open water period to the annual sediment accumulation thickness estimates.

Table A.6: Temporal and Spatial Comparison of Sediment Accumulation Thickness Estimates (mm) During Ice Cover Periods, Sheardown Lake Northwest (NW) Lake Sedimentation Monitoring Study, 2014 to 2025

ANOVA Model					Year	Temporal Comparison									Spatial Comparison		
						Accumulation Rate (mm/Deployment Period)			Temporal Difference [a]			MOD Relative to Baseline Year (2014 to 2015) [b]			MOD [c]		
Season	Trans-formation	Area	Year	Area x Year		SHAL-1	SHAL-2	DEEP-1	SHAL-1	SHAL-2	DEEP-1	SHAL-1	SHAL-2	DEEP-1	SHAL-1 vs SHAL-2	SHAL-1 vs DEEP-1	SHAL-2 vs DEEP-1
Ice Cover	rank	<0.001	<0.001	<0.001	2014 to 2015	0.0207	0.0320	0.0524	D	F	F	-	-	-	ns	ns	ns
					2015 to 2016	0.0652	0.0866	0.0869	C	A	ABC	215	171	65.9	32.7	33.2	ns
					2016 to 2017	0.0863	0.0693	0.132	AB	BCD	A	316	116	152	-19.7	ns	90.4
					2017 to 2018	0.0601	0.0368	0.0756	BCD	EF	CDE	ns	ns	44.4	ns	ns	106
					2018 to 2019	0.0402	0.0328	0.0722	D	F	DE	ns	ns	37.9	ns	79.6	120
					2019 to 2020	0.0587	0.0642	0.0700	CD	CDE	E	183	101	33.6	ns	19.2	ns
					2021 to 2022	0.0794	0.0378	0.0859	AB	EF	ABCD	283	ns	64.0	-52.3	ns	127
					2022 to 2023	0.114	0.0790	0.0947	A	AB	AB	449	147	80.9	-30.5	ns	19.9
					2023 to 2024	0.0673	0.0697	0.0740	BC	ABC	BCDE	224	118	41.3	ns	ns	ns
					2024 to 2025	0.0628	0.0582	0.0780	CD	DEF	ABCDE	ns	ns	49.0	ns	24.3	34.2

P-value <0.05.
Indicates significant difference and later year lower relative to baseline or area B lower relative to area A.
Indicates significant difference and later year higher relative to baseline or area B higher relative to area A.

Notes: ANOVA = Analysis of Variance. Mm = millimetres. MOD = Magnitude of Difference. < = less than. - = no data. ns = not significant. Median accumulation rate values are presented for each year for each area because data were rank-transformed before analysis.

[a] Deployment periods denoted by the same letter do not differ significantly based on tests conducted for each individual area.

[b] MOD is calculated as $((year_{recent} - baseline\ year) / baseline\ year)*100$.

[c] MOD calculated as $((station_B - station_A) / station_A)*100$.

Table A.7: Temporal and Spatial Comparison of Sediment Accumulation Thickness Estimates (mm) During Open Water Periods, Sheardown Lake Northwest (NW), Lake Sedimentation Monitoring Study, 2015 to 2025

ANOVA Model					Year	Temporal Comparison									Spatial Comparison		
						Accumulation Rate (mm/Deployment Period)			Temporal Difference [a]			MOD Relative to Baseline Year (2015) [b]			MOD [c]		
Season	Trans-formation	Area	Year	Area x Year		SHAL-1	SHAL-2	DEEP-1	SHAL-1	SHAL-2	DEEP-1	SHAL-1	SHAL-2	DEEP-1	SHAL-1 vs SHAL-2	SHAL-1 vs DEEP-1	SHAL-2 vs DEEP-1
Open Water	rank	<0.001	<0.001	<0.001	2015	0.0223	0.0223	0.0310	D	D	F	-	-	-	ns	39.3	38.8
					2016	0.0267	0.0222	0.0490	CD	D	BC	ns	ns	57.9	ns	83.2	121
					2017	0.0293	0.0256	0.0319	CD	D	EF	31.8	ns	ns	ns	ns	ns
					2018	0.0376	0.0360	0.0473	BCD	C	CD	69.1	61.0	52.4	ns	ns	ns
					2019	0.0272	0.0202	0.0378	D	D	DEF	ns	ns	ns	ns	39.3	87.1
					2020	0.0223	0.0226	0.0383	D	D	DEF	ns	ns	ns	ns	71.7	69.8
					2022	0.0542	0.0493	0.0426	AB	BC	CD	144	120	37.2	ns	ns	ns
					2023	0.0491	0.0515	0.0941	AB	BC	AB	120	130	203	ns	91.6	82.7
					2024	0.0907	0.0648	0.126	A	B	A	308	190	307	ns	ns	94.8
					2025	0.0647	0.151	0.135	A	A	A	191	576	335	134	ns	ns

P-value <0.05.

Indicates significant difference and later year lower relative to baseline or area B lower relative to area A.

Indicates significant difference and later year higher relative to baseline or area B higher relative to area A.

Notes: ANOVA = Analysis of Variance. Mm = millimetres. MOD = Magnitude of Difference. < = less than. - = no data. ns = not significant. Median accumulation rate values are presented for each year for each area because data were rank-transformed before analysis.

[a] Deployment periods denoted by the same letter do not differ significantly based on tests conducted for each individual area.

[b] MOD is calculated as $((year_{recent} - baseline\ year) / baseline\ year)*100$.

[c] MOD calculated as $((station_B - station_A) / station_A)*100$.

Table A.8: Statistical Comparison of Accumulation Thickness Estimates (mm/Deployment Period) Among Seasons (Ice Cover and Open Water) at Sheardown Lake Northwest (NW) Sediment Trap Monitoring Areas, 2024 to 2025

Area	Overall 2-group Comparison					
	Statistical Test [a]	Transformation	Measure of Central Tendency		P-value	MOD [b]
			Open Water	Ice Cover		
SL-SHAL-1	t-test (equal)	none	0.0700	0.0597	0.051	ns
SL-SHAL-2	M-W	rank	0.151	0.0582	0.019	160
SL-DEEP-1	t-test (equal)	none	0.131	0.0867	0.010	51

Significant difference between study areas based on p-value <0.05.
P-value <0.05 and positive MOD (open water > ice cover).
P-value <0.05 and negative MOD (open water < ice cover).

Notes: MOD = Magnitude of Difference. < = less than. > = greater than. The measure of central tendency (MCT) is the arithmetic mean for non-transformed data, geometric mean for $\log_{10}$ transformed data, and the median for rank-transformed data.

[a] Statistical tests include paired t-test (for unequal or equal variance) and Mann-Whitney (M-W) pair-wise tests.

[b] MOD = ((Open Water - Ice Cover)/Ice Cover)*100.

Table A.9: Spearman Correlations Between Sediment Accumulation Thickness Estimates and Sedimentation Rate at Stations in Sheardown Lake NW and Total Cumulative Dustfall on Baffinland Iron Mine Property Calculated by Season, 2013 to 2025

Season	Lake Station	Dustfall Station	Sediment Accumulation Thickness Estimate vs Total Cumulative Dustfall		Sedimentation Rate vs Total Cumulative Dustfall	
			p-value	Spearman's ρ	p-value	Spearman's ρ
Ice Cover	SL-SHAL-1	DF-M-01	0.682	-0.152	0.892	-0.0545
		DF-M-02	0.313	0.358	0.407	0.297
		DF-M-03	0.470	0.261	0.492	0.248
	SL-SHAL-2	DF-M-01	0.218	-0.430	0.232	-0.418
		DF-M-02	0.584	0.200	0.682	0.152
		DF-M-03	0.537	0.224	0.514	0.236
	SL-DEEP-1	DF-M-01	0.759	0.115	0.296	0.370
		DF-M-02	0.104	0.552	0.218	0.430
		DF-M-03	0.608	0.188	0.892	0.0545
Open Water	SL-SHAL-1	DF-M-01	0.503	-0.227	0.797	-0.0909
		DF-M-02	0.174	-0.442	0.325	-0.328
		DF-M-03	0.290	-0.351	0.449	-0.255
	SL-SHAL-2	DF-M-01	0.386	-0.291	0.503	-0.227
		DF-M-02	0.252	-0.378	0.325	-0.328
		DF-M-03	0.346	-0.314	0.384	-0.292
	SL-DEEP-1	DF-M-01	0.673	-0.145	0.468	-0.245
		DF-M-02	0.105	-0.515	0.0758	-0.556
		DF-M-03	0.290	-0.351	0.169	-0.446

Indicates a significant correlation (p-value < 0.05).

Indicates a moderate positive correlation (0.600 > ρ > 0.400).

Indicates a strong positive correlation (ρ > 0.600).

Note: "ρ" = Spearman's Rho. Cumulative dustfall was calculated for a given station in a given season as the quotient of the total dustfall and the total deployment days.

APPENDIX B
RAW DATA AND METHODS

Table B.1: Dry Weight of Sediment Trap Samples Collected at Sheardown Lake Northwest (NW), 2024 to 2025

Deployment Period	Sample Identification	Collection Date	Dry Weight (g)
Ice Cover 2024 to 2025	SL-DEEP-1A	7-Jul-25	1.42
	SL-DEEP-1B	7-Jul-25	1.35
	SL-DEEP-1C	5-Jul-25	2.38
	SL-DEEP-1D	8-Jul-25	1.42
	SL-DEEP-1E	9-Jul-25	1.32
	SL-SHAL-1A	6-Jul-25	1.06
	SL-SHAL-1B	5-Jul-25	0.990
	SL-SHAL-1C	8-Jul-25	1.05
	SL-SHAL-1D	5-Jul-25	1.06
	SL-SHAL-1E	8-Jul-25	0.830
	SL-SHAL-2A	5-Jul-25	1.06
	SL-SHAL-2B	7-Jul-25	1.05
	SL-SHAL-2C-HIS [a]	5-Jul-25	3.47
	SL-SHAL-2D	7-Jul-25	1.06
	SL-SHAL-2E	5-Jul-25	0.790
Open Water 2025	SL-DEEP-1A	25-Sep-25	2.32
	SL-DEEP-1B	25-Sep-25	2.33
	SL-DEEP-1C	25-Sep-25	2.10
	SL-DEEP-1D	25-Sep-25	1.69
	SL-DEEP-1E	25-Sep-25	2.19
	SL-SHAL-1A	25-Sep-25	1.29
	SL-SHAL-1B	25-Sep-25	1.03
	SL-SHAL-1C	25-Sep-25	1.04
	SL-SHAL-1D	25-Sep-25	1.25
	SL-SHAL-1E	25-Sep-25	1.02
	SL-SHAL-2A	25-Sep-25	1.55
	SL-SHAL-2B	25-Sep-25	1.40
	SL-SHAL-2C	25-Sep-25	1.56
	SL-SHAL-2D	26-Sep-25	1.50
	SL-SHAL-2E	26-Sep-25	1.54

Note: g = grams.

[a] Sediment trap was deployed for longer than one ice cover period (September 2023 to July 2025).

Table B.2: Bulk Density (BD) of Sediment Trap Samples Collected at Sheardown Lake Northwest (NW), 2018 to 2025

Deployment Period	Sample Identification	Retrieval Date	Bulk Density (g/cm^3)
Open Water 2018	SDNW DBD	21-Sep-18	2.94
Ice Cover 2018 to 2019	BD-SHAL-A	12-Aug-19	2.76
	BD-SHAL-B	12-Aug-19	2.76
	BD-DEEP	12-Aug-19	2.88
Open Water 2019	BD-SHAL	Oct-19	2.53
	BD-DEEP	Oct-19	2.59
Ice Cover 2019 to 2020	BD-SHAL-A	18-Jul-20	3.03
	BD-SHAL-B	18-Jul-20	2.91
	BD-DEEP	14-Jul-20	2.75
Open Water 2020	BD-SHAL-A	4-Sep-20	2.37
	BD-SHAL-B	5-Sep-20	2.46
	BD-DEEP	5-Sep-20	2.22
Open Water 2021	BD-SHAL-A	12-Sep-21	2.82
	BD-SHAL-B	13-Sep-21	2.79
	BD-DEEP	11-Sep-21	2.82
Ice Cover 2021 to 2022	BD-SHAL	12-Jul-22	3.14
	BD-DEEP	13-Jul-22	2.91
Open Water 2022	BD-SHAL	17-Sep-22	2.83
	BD-DEEP	17-Sep-22	2.71
Ice Cover 2022 to 2023	BD-SHAL-1	24-Jul-23	2.82
	BD-SHAL-2	22-Jul-23	3.30
	BD-SHAL-4	22-Jul-23	2.98
	BD-SHAL-5	22-Jul-23	3.37
	BD-SHAL-A	Jul-2023	3.15
	BD-SHAL-B	Jul-2023	3.12
	BD-SHAL-B-R	Jul-2023	3.16
	BD-DEEP-1	22-Jul-23	2.84
	BD-DEEP-2	22-Jul-23	2.95
	BD-DEEP-3	24-Jul-23	3.52
	BD-DEEP	Jul-23	3.00
Open Water 2023	BD-SHAL-1	10-Sep-23	2.96
	BD-SHAL-2	19-Sep-23	3.43
	BD-SHAL-5	18-Sep-23	3.10
	BD-SHAL-A	Sep-2023	3.11
	BD-DEEP-1	18-Sep-13	2.76
	BD-DEEP-3	18-Sep-23	2.80
	BD-DEEP	Sep-23	2.90
Ice Cover 2023 to 2024	BD-DEEP	12-Jul-24	2.73
	BD-SHAL-A	13-Jul-24	3.08
	BD-SHAL-B	12-Jul-24	3.02

Notes: g/cm^3 = grams per cubic centimetre. "R" indicates replicate samples. When the day of sampling is unknown only the month and year are shown.

[a] The reported bulk density is a composite sample produced from BD-SHAL-1 and BD-SHAL-2 due to insufficient sample mass to run the analysis independently.

[b] The reported bulk density is a composite sample produced from BD-SHAL-3, BD-SHAL-4, and BD-SHAL-5 due to insufficient sample mass to run the analysis independently.

[c] The reported bulk density is a composite sample produced from BD-DEEP-1, BD-DEEP-2, and BD-DEEP-3 due to insufficient sample mass to run the analysis independently.

Table B.2: Bulk Density (BD) of Sediment Trap Samples Collected at Sheardown Lake Northwest (NW), 2018 to 2025

Deployment Period	Sample Identification	Retrieval Date	Bulk Density (g/cm^3)
Open Water 2024	BD-SHAL-1	5-Oct-24	2.83
	BD-SHAL-2	5-Oct-24	2.82
	BD-SHAL-3	5-Oct-24	3.36
	BD-SHAL-4	5-Oct-24	3.20
	BD-SHAL-5	5-Oct-24	3.18
	BD-DEEP-1	7-Oct-24	3.07
	BD-DEEP-2	7-Oct-24	2.63
Ice Cover 2024 to 2025	BD-SHAL-1 [a]	7-Jul-25	2.84
	BD-SHAL-2 [a]	7-Jul-25	
	BD-SHAL-3 [b]	7-Jul-25	3.08
	BD-SHAL-4 [b]	8-Jul-25	
	BD-SHAL-5 [b]	8-Jul-25	
	BD-DEEP-1 [c]	6-Jul-25	3.09
	BD-DEEP-2 [c]	7-Jul-25	
	BD-DEEP-3 [c]	8-Jul-25	
Open Water 2025	BD-SHAL-1 [a]	26-Sep-25	2.73
	BD-SHAL-2 [a]	25-Sep-25	
	BD-SHAL-3 [b]	25-Sep-25	1.73
	BD-SHAL-4 [b]	25-Sep-25	
	BD-SHAL-5 [b]	26-Sep-25	
	BD-DEEP-1 [c]	25-Sep-25	2.76
	BD-DEEP-2 [c]	25-Sep-25	
	BD-DEEP-3 [c]	25-Sep-25	

Notes: g/cm^3 = grams per cubic centimetre. "R" indicates replicate samples. When the day of sampling is unknown only the month and year are shown.

[a] The reported bulk density is a composite sample produced from BD-SHAL-1 and BD-SHAL-2 due to insufficient sample mass to run the analysis independently.

[b] The reported bulk density is a composite sample produced from BD-SHAL-3, BD-SHAL-4, and BD-SHAL-5 due to insufficient sample mass to run the analysis independently.

[c] The reported bulk density is a composite sample produced from BD-DEEP-1, BD-DEEP-2, and BD-DEEP-3 due to insufficient sample mass to run the analysis independently.

Table B.3: Particle Size Distribution of Sediment Trap Material During the 2024/2025 Ice Cover Period, Sheardown Lake Northwest (NW), Lake Sedimentation Monitoring Study

Sample	Monitoring Area Name	Particle Size Distribution (%) [a]			
		Coarse Sand	Medium Sand	Fine Sand	Silt and/or Clay
		5 to 2 mm	2 to 0.5 mm	0.5 to 0.075 mm	<0.075 mm
BD-SHAL-A	SHAL-1	0.50	7.50	57.5	34.5
BD-SHAL-B	SHAL-2	0.67	7.00	48.7	43.7
BD-DEEP	DEEP-1	0.00	0.50	56.5	43.0

Notes: % = percent. mm = millimeters. < = less than. BD-SHAL-A represents the average particle size distributions from samples BD-SHAL-1 and BD-SHAL-2. BD-SHAL-B represents the average particle size distributions from samples BD-SHAL-3, BD-SHAL-4, and BD-SHAL-5. BD-DEEP represents the average particle sizes from samples BD-DEEP-1 and BD-DEEP-2.

[a]ASTM D2487-17E01 Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System). 2020. American Society for Testing and Standards (ASTM) International. West Conshohocken, PA, USA.

Table B.4: Particle Size Distribution of Sediment Trap Material During the 2025 Open Water Period, Sheardown Lake Northwest (NW), Lake Sedimentation Monitoring Study

Sample	Particle Size Distribution (%) [a]			
	Coarse Sand	Medium Sand	Fine Sand	Silt and/or Clay
	5 to 2 mm	2 to 0.5 mm	0.5 to 0.075 mm	<0.075 mm
BD-SHAL-A [b]	0.00	1.00	68.0	31.0
BD-SHAL-B [b]	0.00	19.0	50.0	31.0
BD-DEEP [b]	0.00	1.00	56.0	43.0

Notes: % = percent. mm = millimetres. < = less than. BD-SHAL-A represents the average particle size distributions from samples BD-SHAL-1 and BD-SHAL-2. BD-SHAL-B represents the average particle size distributions from samples BD-SHAL-3, BD-SHAL-4, and BD-SHAL-5. BD-DEEP represents the average particle sizes from samples BD-DEEP-1, BD-DEEP-2, and BD-DEEP-3.

[a] ASTM D2487-17E01 Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System). 2020. American Society for Testing and Standards (ASTM) International. West Conshohocken, PA, USA.

[b] BD-SHAL-A, BD-SHAL-B, and BD-DEEP correspond to Composite 1, Composite 2, and Composite 3, respectively, in the laboratory report.

Table B.5: Sediment Trap Chemistry Results for the 2024/2025 Ice Cover Period, Sheardown Lake Northwest (NW)

Parameter	Units	Canadian or Provincial SQG Criteria [a]		AEMP Benchmark [b]	Baseline Period Sediment Chemistry [c]		Mean			Littoral Stations										Profundal Stations				
		Lower	Upper		Littoral	Profundal	SHAL-1	SHAL-2	DEEP-1	SHAL-1A	SHAL-1B	SHAL-1C	SHAL-1D	SHAL-1E	SHAL-2A	SHAL-2B	SHAL-2C	SHAL-2D	SHAL-2E	DEEP-1A	DEEP-1B	DEEP-1C	DEEP-1D	DEEP-1E
										06-Jul-25	05-Jul-25	08-Jul-25	05-Jul-25	08-Jul-25	05-Jul-25	07-Jul-25	05-Jul-25	07-Jul-25	05-Jul-25	07-Jul-25	07-Jul-25	05-Jul-25	08-Jul-25	09-Jul-25
TOC	%	1.0 [α]	10 [α]	-	-	-	**1.4**	**2.7**	**1.2**	**1.6**	**1.7**	**1.1**	**1.1**	**1.3**	**3.3**	**4.1**	-	**3.2**	**1.4**	**1.4**	1.00	0.95	**1.3**	**1.3**
Organic Matter	%	-	-	-	-	-	2.4	4.7	2.0	2.7	3.0	2.0	1.9	2.3	5.7	7.1	3.0	5.5	2.4	2.3	1.7	1.6	2.2	2.2
Aluminum	mg/kg	-	-	-	11,792	17,745	33,060	29,300	36,080	33,400	34,600	33,600	28,800	34,900	27,700	28,400	32,700	28,400	29,300	39,500	39,300	23,800	38,900	38,900
Antimony	mg/kg	-	-	-	1.00	1.00	0.30	0.25	0.26	0.19	0.26	0.31	0.49	0.23	0.20	0.19	0.26	0.21	0.39	0.18	0.32	0.21	0.22	0.35
Arsenic	mg/kg	-	-	11.5	3.0	3.2	5.9	6.0	5.9	5.7	6.1	6.0	5.4	6.4	5.1	5.5	6.6	5.8	7.0	6.3	6.3	3.9	6.3	7.0
Barium	mg/kg	-	-	-	78	93	179	156	200	171	188	178	167	190	140	152	171	157	158	217	218	121	222	221
Beryllium	mg/kg	-	-	-	1.00	1.00	1.4	1.3	1.6	1.3	1.6	1.4	1.2	1.5	1.3	1.2	1.4	1.2	1.2	1.7	1.8	1.1	1.7	1.7
Bismuth	mg/kg	-	-	-	-	-	0.79	0.72	0.98	0.77	0.86	0.77	0.68	0.88	0.64	0.71	0.87	0.69	0.69	1.0	1.0	0.65	1.1	1.1
Boron	mg/kg	-	-	-	3.0	3.0	374	219	377	295	458	363	397	356	149	234	140	221	352	390	563	258	262	414
Cadmium	mg/kg	-	-	2.1	0.50	0.50	0.75	0.77	0.88	0.88	0.84	0.63	0.57	0.82	0.65	0.90	0.77	0.88	0.64	0.91	0.95	0.58	1.0	0.97
Calcium	mg/kg	-	-	-	2,697	3,558	7,110	5,626	7,088	6,340	7,780	7,060	7,320	7,050	5,440	5,820	5,030	5,470	6,370	7,120	8,590	6,000	6,280	7,450
Chromium	mg/kg	-	-	94	53	81	81	86	85	77	83	93	70	85	72	69	77	70	142	92	90	54	90	99
Cobalt	mg/kg	-	-	-	10.0	15	24	22	27	24	26	24	22	26	20	21	26	22	23	29	29	16	30	29
Copper	mg/kg	-	-	89	33	48	55	52	63	54	57	57	48	58	49	47	51	50	63	68	66	39	68	76
Iron	mg/kg	-	-	71,736	28,120	40,382	127,800	118,260	101,140	105,000	116,000	125,000	176,000	117,000	102,000	94,300	152,000	109,000	134,000	103,000	104,000	74,700	106,000	118,000
Lead	mg/kg	-	-	63	13	20	23	20	27	24	25	22	20	25	20	19	21	19	23	29	29	19	30	30
Lithium	mg/kg	-	-	-	-	-	42	37	50	41	47	42	36	45	36	35	43	35	37	56	56	31	53	56
Magnesium	mg/kg	-	-	-	7,448	11,498	25,100	21,800	27,860	24,500	26,500	25,300	21,800	27,400	20,100	20,800	24,400	21,000	22,700	30,400	30,000	18,600	30,100	30,200
Manganese	mg/kg	-	-	4,754	756	2,164	2,206	2,004	2,618	2,250	2,430	1,930	1,970	2,450	1,780	2,240	1,840	2,230	1,930	2,940	2,860	1,490	3,050	2,750
Mercury	mg/kg	-	-	0.33	0.100	0.100	0.021	0.016	0.021	0.026	0.029	0.017	0.014	0.020	0.015	0.017	0.015	0.019	0.014	0.023	0.026	0.010	0.026	0.022
Molybdenum	mg/kg	25 [β]	23,000 [β]	-	3.4	3.5	11	8.0	8.5	7.3	8.7	11	18	7.6	7.5	7.0	8.2	7.9	9.4	8.1	8.0	4.8	11	11
Nickel	mg/kg	-	-	82	49	69	74	71	81	75	78	73	67	80	68	68	78	70	72	89	86	50	89	90
Phosphorus	mg/kg	-	-	2,302	863	1,400	598	584	654	602	627	574	585	604	610	509	642	569	589	701	723	458	696	694
Potassium	mg/kg	-	-	-	2,681	4,612	7,400	6,854	8,350	7,450	7,830	7,500	6,330	7,890	6,380	6,750	7,670	6,840	6,630	8,830	8,620	6,140	9,110	9,050
Selenium	mg/kg	-	-	-	1.00	1.00	0.58	0.64	0.55	0.55	0.67	0.51	0.57	0.60	0.68	0.70	0.57	0.78	0.49	0.60	0.55	0.32	0.57	0.69
Silver	mg/kg	0.5 [β]	-	-	0.30	0.30	0.23	0.20	0.28	0.24	0.25	0.23	0.20	0.25	0.19	0.18	0.21	0.20	0.23	0.31	0.30	0.20	0.30	0.31
Sodium	mg/kg	-	-	-	249	342	298	280	342	296	323	292	264	314	290	257	279	259	313	370	392	240	348	360
Strontium	mg/kg	-	-	-	7.2	11	21	16	22	19	24	21	22	21	15	17	13	16	20	23	28	15	20	24
Sulphur	mg/kg	-	-	-	-	-	1,120	1,320	<1000	<1000	<1100	<1000	<1000	<1500	1,200	1,300	<1000	1,200	<1900	<1000	<1000	<1000	<1000	<1000
Thallium	mg/kg	-	-	-	1.00	1.00	0.44	0.41	0.47	0.45	0.48	0.43	0.37	0.46	0.40	0.40	0.45	0.40	0.41	0.50	0.50	0.32	0.53	0.51
Tin	mg/kg	-	-	-	-	-	4.0	4.6	3.2	<2.0	2.8	8.7	3.4	<2.9	2.9	<2.0	2.2	11	4.3	2.6	2.5	5.8	2.1	2.9
Titanium	mg/kg	-	-	-	-	-	1,324	1,182	1,322	1,310	1,400	1,320	1,150	1,440	1,150	1,090	1,260	1,110	1,300	1,410	1,420	989	1,360	1,430
Tungsten	mg/kg	-	-	-	-	-	1.3	1.2	1.0	1.0	1.3	1.3	1.3	1.3	1.2	1.1	1.1	1.1	1.5	0.93	0.92	1.6	0.75	1.0
Uranium	mg/kg	-	-	-	-	-	9.4	9.5	8.2	7.7	8.3	8.5	15	7.7	11	9.7	8.4	10	8.3	9.1	8.8	4.7	8.8	9.5
Vanadium	mg/kg	-	-	-	37	58	51	47	57	52	54	52	44	56	47	44	51	45	49	62	61	38	62	61
Zinc	mg/kg	-	-	219	51	76	304	203	157	131	137	280	837	134	131	112	145	158	471	150	155	122	149	211
Zirconium	mg/kg	-	-	-	-	-	13	9.5	13	12	15	12	12	13	7.0	9.6	9.4	9.1	13	12	13	11	14	15

Indicates parameter concentration above the AEMP Benchmark.

ITALIC Indicates a parameter concentration above the Lower SQG.

BOLD Indicates a parameter concentration above the Upper SQG.

Notes: Values at or below the laboratory reporting limit (LRL) were replaced with the LRL for calculating summary statistics. The dates reported in the table are the retrieval dates of the sediment trap. SQG = Sediment Quality Guideline. AEMP = Aquatic Effects Monitoring Plan. TOC = total organic carbon. % = percent. - = not applicable/no data. mg/kg = milligrams per kilogram dry weight.

[a] α = Ontario Provincial Sediment Quality Guideline (PSQG; OMOE 1993) and β = British Columbia Working SQG (BCMOE 2025).

[b] AEMP Sediment Quality Benchmarks were developed using existing SQG, background sediment quality data, and reference area sediment quality data (Baffinland 2024).

[c] Baseline chemistry data for sediments is sourced from surface sediments collected in the CREMP (TCC 2026 in prep.).

Table B.6: Sediment Trap Chemistry Results for the 2025 Open Water Period, Sheardown Lake Northwest (NW)

Parameter	Units	Provincial SQG Criteria [a]		AEMP Benchmark [b]	Baseline Period Sediment Chemistry [c]		Mean			Littoral Stations										Profundal Stations				
		Lower	Upper		Littoral	Profundal	SHAL-1	SHAL-2	DEEP-1	SHAL-1A	SHAL-1B	SHAL-1C	SHAL-1D	SHAL-1E	SHAL-2A	SHAL-2B	SHAL-2C	SHAL-2D	SHAL-2E	DEEP-1A	DEEP-1B	DEEP-1C	DEEP-1D	DEEP-1E
										25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25	25-Sep-25
TOC	%	1 [α]	10 [α]	-	-	-	**1.7**	**2.3**	**1.3**	**1.8**	**2.0**	**1.4**	**1.5**	**1.6**	**3.1**	**2.3**	**2.1**	**2.2**	**1.6**	**1.3**	**1.4**	**1.3**	**1.3**	**1.2**
Organic Matter	%	-	-	-	-	-	2.9	3.9	2.2	3.1	3.5	2.5	2.6	2.7	5.4	4.0	3.7	3.8	2.7	2.3	2.3	2.3	2.3	2.0
Aluminum	mg/kg	-	-	-	11,792	17,745	29,260	24,020	28,720	27,300	29,400	30,500	28,800	30,300	23,500	24,200	22,800	25,200	24,400	29,200	27,600	28,500	29,800	28,500
Antimony	mg/kg	-	-	-	1.0	1.0	0.21	0.16	0.30	0.15	0.14	0.30	0.30	0.17	0.14	0.15	0.23	0.13	0.14	0.13	0.13	0.35	0.13	0.75
Arsenic	mg/kg	-	-	11.5	3.0	3.2	5.3	4.9	5.3	4.9	5.2	5.8	5.5	5.4	4.6	4.9	4.8	5.0	5.1	5.2	4.9	6.2	5.3	5.1
Barium	mg/kg	-	-	-	78	93	148	119	145	146	148	149	147	150	118	124	117	121	116	149	137	143	144	151
Beryllium	mg/kg	-	-	-	1.0	1.0	1.2	1.0	1.2	1.1	1.2	1.2	1.2	1.3	1.0	1.0	0.99	1.0	1.0	1.2	1.2	1.2	1.3	1.3
Bismuth	mg/kg	-	-	-	-	-	0.50	0.45	0.49	0.49	0.51	0.49	0.48	0.52	0.46	0.46	0.43	0.44	0.44	0.47	0.47	0.52	0.50	0.47
Boron	mg/kg	-	-	-	3.0	3.0	294	167	275	303	311	276	221	357	132	232	108	182	182	289	261	298	253	275
Cadmium	mg/kg	-	-	2.1	0.50	0.50	0.55	0.59	0.56	0.61	0.60	0.53	0.44	0.55	0.65	0.68	0.61	0.57	0.44	0.66	0.52	0.49	0.55	0.57
Calcium	mg/kg	-	-	-	2,697	3,558	8,586	8,138	9,236	7,970	8,670	9,010	7,980	9,300	7,350	8,590	7,820	7,950	8,980	9,450	9,320	9,120	8,970	9,320
Chromium	mg/kg	-	-	94	53	81	86	79	101	77	82	96	91	86	72	78	87	78	81	91	103	126	91	92
Cobalt	mg/kg	-	-	-	10	15	21	19	21	19	21	21	22	21	18	19	19	19	19	21	21	21	22	21
Copper	mg/kg	-	-	89	33	48	48	41	62	44	45	55	50	48	40	41	44	41	39	47	45	68	104	48
Iron	mg/kg	-	-	71,736	28,120	40,382	94,820	94,840	80,480	86,300	79,400	92,300	123,000	93,100	85,600	88,700	105,000	93,900	101,000	80,800	74,100	91,600	80,200	75,700
Lead	mg/kg	-	-	63	13	20	22	19	23	21	22	22	22	23	18	19	18	19	19	23	24	23	24	24
Lithium	mg/kg	-	-	-	-	-	42	35	45	39	43	41	41	44	34	36	33	35	35	44	44	43	47	47
Magnesium	mg/kg	-	-	-	7,448	11,498	21,580	18,840	21,940	20,300	21,300	22,300	21,800	22,200	17,900	19,100	18,700	18,600	19,900	22,300	21,300	21,500	22,900	21,700
Manganese	mg/kg	-	-	4,754	756	2,164	1,534	1,412	1,576	1,480	1,520	1,610	1,570	1,490	1,460	1,610	1,430	1,340	1,220	1,770	1,490	1,260	1,440	1,920
Mercury	mg/kg	-	-	0.33	0.100	0.100	0.017	0.015	0.022	0.018	0.017	0.017	0.016	0.018	0.017	0.018	0.014	0.016	0.013	0.018	0.019	0.031	0.024	0.019
Molybdenum	mg/kg	25 [β]	23,000 [β]	-	3.4	3.5	5.8	4.6	4.6	5.0	4.2	6.2	8.9	4.9	4.4	4.0	6.2	4.1	4.1	3.9	3.5	8.1	3.7	3.7
Nickel	mg/kg	-	-	82	49	69	70	67	74	66	70	72	71	71	66	68	67	67	69	75	72	75	75	75
Phosphorus	mg/kg	-	-	2,302	863	1,400	712	657	751	701	685	753	710	712	631	655	633	656	710	784	748	715	751	759
Potassium	mg/kg	-	-	-	2,681	4,612	6,946	5,664	6,980	6,590	7,060	7,180	6,780	7,120	5,460	5,650	5,470	5,890	5,850	6,990	6,950	6,780	7,020	7,160
Selenium	mg/kg	-	-	-	1.0	1.0	0.58	0.55	0.48	0.57	0.50	0.58	0.64	0.60	0.58	0.57	0.52	0.54	0.52	0.51	0.44	0.45	0.52	0.50
Silver	mg/kg	0.5 [β]	-	-	0.30	0.30	0.18	0.15	0.21	0.17	0.18	0.19	0.19	0.18	0.14	0.14	0.16	0.15	0.16	0.19	0.19	0.21	0.28	0.19
Sodium	mg/kg	-	-	-	249	342	373	313	420	351	373	379	372	390	297	326	293	330	319	415	395	424	434	434
Strontium	mg/kg	-	-	-	7.2	11	21	17	22	21	21	21	19	24	15	18	16	18	19	23	21	22	21	22
Sulphur	mg/kg	-	-	-	-	-	1,080	<1000	<1000	<1000	<1100	<1200	<1000	<1100	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Thallium	mg/kg	-	-	-	1.0	1.0	0.48	0.41	0.51	0.47	0.46	0.48	0.47	0.50	0.40	0.41	0.40	0.44	0.40	0.52	0.51	0.51	0.52	0.53
Tin	mg/kg	-	-	-	-	-	3.3	3.0	2.6	<2.0	<2.2	6.8	3.1	<2.3	<2.0	<2.0	2.4	6.4	2.4	2.7	<2.0	3.3	3.1	<2.0
Titanium	mg/kg	-	-	-	-	-	1,506	1,268	1,584	1,390	1,510	1,580	1,490	1,560	1,190	1,250	1,240	1,310	1,350	1,600	1,580	1,520	1,620	1,600
Tungsten	mg/kg	-	-	-	-	-	0.84	0.72	0.63	0.81	0.83	0.85	0.83	0.87	0.71	0.72	0.76	0.68	0.74	0.63	0.64	0.63	0.62	0.65
Uranium	mg/kg	-	-	-	-	-	8.0	7.7	7.1	8.0	7.0	7.3	10	7.4	7.6	8.2	7.9	7.5	7.2	6.8	7.0	7.9	6.7	7.2
Vanadium	mg/kg	-	-	-	37	58	56	49	61	53	56	58	57	58	47	49	48	50	51	61	60	59	63	61
Zinc	mg/kg	-	-	219	51	76	156	101	121	102	121	152	287	118	95	97	120	101	94	114	108	172	105	105
Zirconium	mg/kg	-	-	-	-	-	19	16	22	16	19	20	18	20	15	15	15	16	16	21	21	23	20	22

Indicates parameter concentration above the AEMP Benchmark.

ITALIC Indicates a parameter concentration above the Lower SQG.

BOLD Indicates a parameter concentration above the Upper SQG.

Notes: Values at or below the laboratory reporting limit (LRL) were replaced with the LRL for calculating summary statistics. The dates reported in the table are the retrieval dates of the sediment trap. SQG = Sediment Quality Guideline. AEMP = Aquatic Effects Monitoring Plan. TOC = total organic carbon. % = percent. - = not applicable/no data. mg/kg = milligrams per kilogram dry weight.

[a] α = Ontario Provincial Sediment Quality Guideline (PSQG; OMOE 1993) and β = British Columbia Working SQG (BCMOE 2025).

[b] AEMP Sediment Quality Benchmarks were developed using existing SQG, background sediment quality data, and reference area sediment quality data (Baffinland 2024).

[c] Baseline chemistry data for sediments is sourced from surface sediments collected in the CREMP (TCC 2026 in prep.).

Table B.7: **Dustfall Chemistry Results for Selected Parameters at Dustfall Monitorings Stations Located Near Sheardown Lake Northwest (NW), 2024 to 2025**

Season	Station ID	Date Sampled	Arsenic	Cadmium	Chromium	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel	Phosphorus	Uranium	Zinc
			mg/dm^2/d	mg/dm^2/d	mg/dm^2/d	mg/dm^2/d	mg/dm^2/d	mg/dm^2/d	mg/dm^2/d	mg/dm^2/d	mg/dm^2/d	mg/dm^2/d	mg/dm^2/d	mg/dm^2/d	mg/dm^2/d
2024 to 2025 Ice Cover	DF-M-01	17-Nov-24	<0.0000028	<0.0000014	0.000059	0.000084	0.043	0.000019	0.00081	<0.0000014	0.0000027	0.000049	<0.0014	0.0000071	0.00015
		15-Dec-24	<0.0000028	<0.0000014	<0.000014	0.000094	0.0026	0.000002	0.00020	<0.0000014	<0.0000014	<0.000014	<0.0014	<0.0000026	0.00014
		13-Jan-25	<0.0000027	<0.0000014	<0.000014	0.000045	0.0070	0.0000014	0.00025	<0.0000014	<0.0000014	0.000016	<0.0014	<0.0000026	0.000092
		10-Feb-25	0.000003	<0.0000014	0.000021	0.00012	0.015	0.0000086	0.00033	<0.0000014	<0.0000014	0.000028	<0.0014	0.0000029	0.00012
		11-Mar-25	0.000024	<0.0000014	0.00017	0.00017	0.16	0.00012	0.0037	<0.0000014	0.000014	0.00016	0.0021	0.000061	0.00062
		12-Apr-25	0.000019	<0.0000013	0.00016	0.00021	0.15	0.00013	0.0030	<0.0000013	0.000017	0.00014	0.0020	0.000057	0.00060
		14-May-25	0.000028	<0.0000013	0.00063	0.00037	0.44	0.00024	0.0087	<0.0000013	0.000019	0.00046	0.0066	0.000086	0.0013
		11-Jun-25	<0.0000028	<0.0000014	0.000034	0.000082	0.024	0.0000096	0.00041	<0.0000014	<0.0000014	0.000025	<0.0014	0.0000032	0.000084
		09-Jul-25	<0.0000028	<0.0000014	0.000040	0.000034	0.031	0.000010	0.00051	<0.0000014	0.0000017	0.000034	<0.0014	0.0000056	0.00012
	DF-M-02	17-Nov-24	0.000007	<0.0000014	0.000037	0.000058	0.035	0.0000054	0.00071	<0.0000014	0.0000029	0.000036	<0.0014	<0.0000026	0.000095
		15-Dec-24	0.000005	<0.0000014	0.000035	0.000057	0.027	0.0000025	0.00087	<0.0000014	0.0000017	0.000049	<0.0014	<0.0000026	0.00017
		13-Jan-25	0.000020	<0.0000014	0.000062	0.00012	0.086	0.0000061	0.0019	<0.0000014	0.0000064	0.000095	0.0014	<0.0000026	0.00020
		10-Feb-25	0.000047	<0.0000014	0.000088	0.00019	0.19	0.000012	0.0044	<0.0000014	0.000008	0.00015	<0.0014	<0.0000026	0.00015
		11-Mar-25	<0.0000027	<0.0000014	0.000014	0.00054	0.0034	0.000002	0.0033	<0.0000014	0.0000026	0.000081	<0.0014	<0.0000026	0.0011
		12-Apr-25	0.000037	<0.0000013	0.00013	0.00014	0.17	0.000019	0.0030	<0.0000013	0.000013	0.00017	0.0016	0.0000051	0.00022
		14-May-25	0.000018	<0.0000013	0.00015	0.00012	0.12	0.000020	0.0025	<0.0000013	0.0000085	0.00015	0.0016	0.0000045	0.00024
		11-Jun-25	0.0000071	<0.0000014	0.00011	0.000090	0.069	0.000020	0.0010	<0.0000014	0.000004	0.000086	<0.0014	0.0000035	0.00046
		09-Jul-25	0.0000051	<0.0000014	0.00011	0.000084	0.083	0.000020	0.0013	<0.0000014	0.0000034	0.000088	<0.0014	0.0000053	0.00025
	DF-M-03	17-Nov-24	<0.0000028	<0.0000014	0.000034	0.000054	0.018	0.0000034	0.00033	<0.0000014	0.0000018	0.000021	<0.0014	<0.0000026	<0.000084
		15-Dec-24	<0.0000028	<0.0000014	<0.000014	0.00015	0.0033	<0.0000014	0.00021	<0.0000014	<0.0000014	0.000036	<0.0014	<0.0000026	0.00011
		13-Jan-25	0.0000043	<0.0000014	0.000047	0.000075	0.032	0.000007	0.00078	<0.0000014	0.000002	0.000038	<0.0014	<0.0000026	0.00013
		10-Feb-25	0.0000084	<0.0000014	0.000082	0.000092	0.057	0.000016	0.0013	<0.0000014	0.0000036	0.000076	<0.0014	0.0000034	0.00015
		11-Mar-25	0.000013	<0.0000014	0.00011	0.000070	0.073	0.000017	0.0014	<0.0000014	0.0000052	0.000078	0.0016	0.0000032	0.00020
		12-Apr-25	0.000026	<0.0000013	0.00017	0.00013	0.14	0.000021	0.0028	<0.0000013	0.000010	0.00015	0.0020	0.0000058	0.00028
		14-May-25	0.0000056	<0.0000013	0.00017	0.000095	0.097	0.000021	0.0017	<0.0000013	0.000004	0.00012	0.0016	0.0000045	0.00026
		11-Jun-25	0.0000042	<0.0000014	0.00011	0.000070	0.076	0.000020	0.0013	<0.0000014	0.0000028	0.000091	<0.0014	0.0000052	0.00063
		09-Jul-25	0.000006	<0.0000014	0.00024	0.00011	0.16	0.000032	0.0025	<0.0000014	0.0000049	0.00018	0.0025	0.0000084	0.00036
2025 Open Water	DF-M-01	09-Aug-25	<0.0000026	<0.0000013	0.000019	<0.000026	0.0026	0.0000016	0.000060	<0.0000013	<0.0000013	<0.000013	<0.0013	<0.0000026	0.00024
		06-Sep-25	<0.000014	0.000045	0.000039	0.000013	<0.00014	0.20	<0.0000014	0.000043	<0.0014	0.013	<0.000028	0.00019	0.00023
		04-Oct-25	0.0000034	<0.0000014	0.000045	0.000039	0.036	0.000013	0.0069	<0.0000014	<0.0000014	0.000043	<0.0014	0.0000038	0.00019
	DF-M-02	09-Aug-25	<0.0000026	<0.0000013	0.000017	<0.000026	0.0018	0.0000015	0.000060	<0.0000013	<0.0000013	<0.000013	0.0014	<0.0000026	0.00023
		06-Sep-25	<0.000014	0.00010	0.000048	0.000021	<0.00014	0.40	0.0000025	0.000081	<0.0014	0.022	<0.000028	0.00022	0.00024
		04-Oct-25	0.0000055	<0.0000014	0.00010	0.000048	0.071	0.000021	0.013	<0.0000014	0.0000025	0.000081	<0.0014	0.0000044	0.00022
	DF-M-03	09-Aug-25	<0.0000026	<0.0000013	0.000018	<0.000026	0.0020	0.0000019	0.000069	<0.0000013	<0.0000013	<0.000013	<0.0013	<0.0000026	0.00012
		06-Sep-25	<0.000014	0.00026	0.00012	0.000053	<0.00014	0.94	0.0000054	0.00018	0.0030	0.053	<0.000028	0.00049	0.00012
		04-Oct-25	0.000012	<0.0000014	0.00026	0.00012	0.18	0.000053	0.030	<0.0000014	0.0000054	0.00018	0.0030	0.0000091	0.00049

Note: mg/dm^2/d = milligrams per square decimetre per day. < = less than. Metal depositional rates presented are the total metal concentrations.

Table B.8: Dustfall Deposition Rates for Dustfall Monitoring Stations Near Sheardown Lake Northwest (NW), 2013 to 2025

Season	Station ID	Period	Sample Date	Unit	Sampling Days	Insoluble Dustfall		
						Fixed	Volatile	Total
Ice Cover	DF-M-01	2013 to 2014	14-Dec-13	mg/dm²/day	39	<0.10	<0.10	<0.10
	DF-M-01		13-Jan-14	mg/dm²/day	30	0.28	<0.10	0.28
	DF-M-01		26-Feb-14	mg/dm²/day	44	0.39	<0.10	0.39
	DF-M-01		17-Mar-14	mg/dm²/day	19	<0.16	<0.16	0.20
	DF-M-01		14-Apr-14	mg/dm²/day	28	4.9	0.57	5.5
	DF-M-01		19-May-14	mg/dm²/day	35	0.80	<0.10	0.79
	DF-M-01		29-Jun-14	mg/dm²/day	41	1.0	<0.10	1.0
	DF-M-01	2014 to 2015	12-Sep-14	mg/dm²/day	33	0.45	<0.10	0.45
	DF-M-01		7-Dec-14	mg/dm²/day	86	1.1	<0.10	1.2
	DF-M-01		4-Jan-15	mg/dm²/day	30	0.37	<0.11	0.37
	DF-M-01		7-Feb-15	mg/dm²/day	35	2.9	<0.10	2.9
	DF-M-01		8-Mar-15	mg/dm²/day	28	0.72	<0.11	0.66
	DF-M-01		7-Apr-15	mg/dm²/day	30	11	<0.10	10
	DF-M-01		9-May-15	mg/dm²/day	32	14	0.29	14
	DF-M-01		8-Jun-15	mg/dm²/day	30	1.7	<0.10	1.7
	DF-M-01		10-Jul-15	mg/dm²/day	32	0.41	<0.10	0.41
	DF-M-01	2015 to 2016	8-Oct-15	mg/dm²/day	32	0.48	<0.10	0.50
	DF-M-01		17-Nov-15	mg/dm²/day	40	0.16	<0.10	0.16
	DF-M-01		21-Dec-15	mg/dm²/day	34	0.17	<0.10	0.18
	DF-M-01		18-Jan-16	mg/dm²/day	28	0.36	<0.10	0.38
	DF-M-01		16-Feb-16	mg/dm²/day	29	0.31	<0.10	0.31
	DF-M-01		14-Mar-16	mg/dm²/day	27	1.2	<0.10	1.3
	DF-M-01		11-Apr-16	mg/dm²/day	28	1.0	<0.10	1.1
	DF-M-01		9-May-16	mg/dm²/day	28	6.1	0.71	6.8
	DF-M-01		11-Jun-16	mg/dm²/day	33	2.4	<0.10	2.5
	DF-M-01		12-Jul-16	mg/dm²/day	31	3.1	<0.10	3.1
	DF-M-01	2016 to 2017	17-Oct-16	mg/dm²/day	24	4.5	<1.0	4.7
	DF-M-01		19-Nov-16	mg/dm²/day	33	2.6	0.18	2.8
	DF-M-01		19-Dec-16	mg/dm²/day	30	0.53	<0.10	0.53
	DF-M-01		19-Jan-17	mg/dm²/day	31	5.5	0.48	6.0
	DF-M-01		19-Feb-17	mg/dm²/day	31	<0.10	<0.10	<0.10
	DF-M-01		22-Mar-17	mg/dm²/day	31	0.84	<0.10	0.89
	DF-M-01		23-Apr-17	mg/dm²/day	32	1.5	<0.10	1.5
	DF-M-01		21-May-17	mg/dm²/day	28	9.6	0.3	9.9
	DF-M-01		19-Jun-17	mg/dm²/day	29	2.4	<0.10	2.5
	DF-M-01		21-Jul-17	mg/dm²/day	32	5.3	0.17	5.5
	DF-M-01	2017 to 2018	15-Oct-17	mg/dm²/day	25	2.7	0.18	2.8
	DF-M-01		14-Nov-17	mg/dm²/day	30	0.75	0.12	0.87
	DF-M-01		10-Dec-17	mg/dm²/day	26	40	1.2	42
	DF-M-01		9-Jan-18	mg/dm²/day	30	0.42	<0.10	0.44
	DF-M-01		13-Feb-18	mg/dm²/day	35	2.7	0.14	2.8
	DF-M-01		17-Mar-18	mg/dm²/day	32	2.1	<0.10	2.1
	DF-M-01		20-Apr-18	mg/dm²/day	34	4.4	0.12	4.5
	DF-M-01		13-May-18	mg/dm²/day	23	4.7	0.79	5.5
	DF-M-01		15-Jun-18	mg/dm²/day	33	3.9	<0.10	4.0
	DF-M-01		17-Jul-18	mg/dm²/day	32	0.84	<0.10	0.87
	DF-M-01	2018 to 2019	10-Oct-18	mg/dm²/day	27	2.7	0.14	2.9
	DF-M-01		10-Nov-18	mg/dm²/day	32	0.49	<0.10	0.49
	DF-M-01		9-Dec-18	mg/dm²/day	29	0.45	<0.10	0.45
	DF-M-01		7-Jan-19	mg/dm²/day	29	1.5	<0.10	1.5
	DF-M-01		4-Feb-19	mg/dm²/day	28	0.87	<0.10	0.91

Notes: ID = identifier. mg/dm^2/day = milligram per square decimetre per day. < = less than. - = no data.

Table B.8: Dustfall Deposition Rates for Dustfall Monitoring Stations Near Sheardown Lake Northwest (NW), 2013 to 2025

Season	Station ID	Period	Sample Date	Unit	Sampling Days	Insoluble Dustfall		
						Fixed	Volatile	Total
Ice Cover	DF-M-01	2018 to 2019	4-Mar-19	mg/dm²/day	28	0.24	<0.10	0.25
	DF-M-01		2-Apr-19	mg/dm²/day	29	3.1	0.21	3.3
	DF-M-01		2-May-19	mg/dm²/day	30	3.0	0.11	3.1
	DF-M-01		29-May-19	mg/dm²/day	27	1.8	<0.10	1.9
	DF-M-01		25-Jun-19	mg/dm²/day	27	0.18	<0.10	0.19
	DF-M-01		24-Jul-19	mg/dm²/day	29	0.50	<0.10	0.55
	DF-M-01	2019 to 2020	16-Oct-19	mg/dm²/day	28	0.70	<0.10	0.72
	DF-M-01		13-Nov-19	mg/dm²/day	28	0.28	<0.10	0.30
	DF-M-01		12-Dec-19	mg/dm²/day	29	1.7	<0.10	1.7
	DF-M-01		8-Jan-20	mg/dm²/day	27	2.2	<0.10	2.2
	DF-M-01		5-Feb-20	mg/dm²/day	28	0.31	<0.10	0.33
	DF-M-01		4-Mar-20	mg/dm²/day	28	0.39	<0.10	0.41
	DF-M-01		1-Apr-20	mg/dm²/day	28	6.4	0.21	6.6
	DF-M-01		1-May-20	mg/dm²/day	30	1.8	<0.10	1.9
	DF-M-01		29-May-20	mg/dm²/day	28	17	0.49	17
	DF-M-01		29-Jun-20	mg/dm²/day	31	1.2	<0.10	1.2
	DF-M-01		27-Jul-20	mg/dm²/day	28	0.79	<0.10	0.84
	DF-M-01	2020 to 2021	21-Oct-20	mg/dm²/day	30	5.7	0.15	5.9
	DF-M-01		19-Nov-20	mg/dm²/day	29	0.28	<0.10	0.30
	DF-M-01		20-Dec-20	mg/dm²/day	31	1.5	<0.10	1.5
	DF-M-01		18-Jan-21	mg/dm²/day	29	10.0	0.45	10
	DF-M-01		17-Feb-21	mg/dm²/day	30	0.87	<0.10	0.93
	DF-M-01		20-Mar-21	mg/dm²/day	31	2.6	<0.10	2.6
	DF-M-01		25-Apr-21	mg/dm²/day	36	2.9	0.11	3.0
	DF-M-01		20-May-21	mg/dm²/day	28	9.9	0.36	10
	DF-M-01		20-Jun-21	mg/dm²/day	31	3.2	<0.10	3.3
	DF-M-01		22-Jul-21	mg/dm²/day	32	0.46	<0.10	0.46
	DF-M-01	2021 to 2022	21-Oct-21	mg/dm²/day	29	1.0	<0.10	1.1
	DF-M-01		18-Nov-21	mg/dm²/day	28	0.85	<0.10	0.88
	DF-M-01		17-Dec-21	mg/dm²/day	29	7.8	0.2	8.0
	DF-M-01		15-Jan-22	mg/dm²/day	29	4.9	0.16	5.0
	DF-M-01		17-Feb-22	mg/dm²/day	33	5.6	<0.10	5.6
	DF-M-01		19-Mar-22	mg/dm²/day	30	0.89	<0.10	0.91
	DF-M-01		18-Apr-22	mg/dm²/day	30	3.6	0.14	3.8
	DF-M-01		17-May-22	mg/dm²/day	29	13	0.37	13
	DF-M-01		17-Jun-22	mg/dm²/day	31	3.2	<0.10	3.3
	DF-M-01		16-Jul-22	mg/dm²/day	29	2.4	<0.10	2.5
	DF-M-01	2022 to 2023	11-Oct-22	mg/dm²/day	29	1.2	<0.10	1.2
	DF-M-01		18-Nov-22	mg/dm²/day	38	0.56	<0.10	0.57
	DF-M-01		16-Dec-22	mg/dm²/day	28	2.3	<0.10	2.3
	DF-M-01		16-Jan-23	mg/dm²/day	31	0.48	< 0.10	0.5
	DF-M-01		16-Feb-23	mg/dm²/day	31	0.49	< 0.10	0.49
	DF-M-01		11-Mar-23	mg/dm²/day	23	0.51	< 0.10	0.52
	DF-M-01		9-Apr-23	mg/dm²/day	83	0.79	< 0.10	0.81
	DF-M-01		8-May-23	mg/dm²/day	81	1.8	< 0.10	1.8
	DF-M-01		3-Jun-23	mg/dm²/day	26	1.8	< 0.10	1.8
	DF-M-01		1-Jul-23	mg/dm²/day	28	1.4	< 0.10	1.4
	DF-M-01	2023 to 2024	Oct-23	mg/dm²/day	n.a	-	-	-
	DF-M-01		18-Nov-23	mg/dm²/day	n.a	2.6	< 0.1	2.7
	DF-M-01		24-Dec-23	mg/dm²/day	36	2.1	< 0.1	2.2
	DF-M-01		23-Jan-24	mg/dm²/day	30	1.8	<0.10	1.9

Notes: ID = identifier. mg/dm^2/day = milligram per square decimetre per day. < = less than. - = no data.

Table B.8: Dustfall Deposition Rates for Dustfall Monitoring Stations Near Sheardown Lake Northwest (NW), 2013 to 2025

Season	Station ID	Period	Sample Date	Unit	Sampling Days	Insoluble Dustfall		
						Fixed	Volatile	Total
Ice Cover	DF-M-01	2023 to 2024	22-Feb-24	mg/dm²/day	30	1.8	0.16	1.9
	DF-M-01		22-Mar-24	mg/dm²/day	29	1.4	<0.10	1.5
	DF-M-01		23-Apr-24	mg/dm²/day	32	0.95	<0.10	0.99
	DF-M-01		7-May-24	mg/dm²/day	14	6.3	0.12	6.4
	DF-M-01		23-May-24	mg/dm²/day	16	2.9	<0.10	3.0
	DF-M-01		26-Jun-24	mg/dm²/day	34	1.3	<0.10	1.4
	DF-M-01		24-Jul-24	mg/dm²/day	28	0.47	<0.10	0.49
	DF-M-01	2024 to 2025	17-Nov-24	mg/dm²/day	28	1.7	<0.10	1.7
	DF-M-01		15-Dec-24	mg/dm²/day	28	0.36	<0.10	0.41
	DF-M-01		13-Jan-25	mg/dm²/day	29	0.17	<0.10	0.2
	DF-M-01		10-Feb-25	mg/dm²/day	28	0.68	<0.10	0.72
	DF-M-01		11-Mar-25	mg/dm²/day	29	7.1	0.22	7.3
	DF-M-01		12-Apr-25	mg/dm²/day	32	6.3	0.15	6.5
	DF-M-01		14-May-25	mg/dm²/day	32	15	0.34	15
	DF-M-01		11-Jun-25	mg/dm²/day	28	0.3	<0.10	0.32
	DF-M-01		9-Jul-25	mg/dm²/day	28	0.81	<0.10	0.83
	DF-M-02	2013 to 2014	14-Dec-13	mg/dm²/day	39	<0.10	<0.10	<0.10
	DF-M-02		13-Jan-14	mg/dm²/day	30	0.12	<0.10	0.12
	DF-M-02		26-Feb-14	mg/dm²/day	44	0.13	<0.10	0.13
	DF-M-02		17-Mar-14	mg/dm²/day	19	1.1	<0.16	1.1
	DF-M-02		14-Apr-14	mg/dm²/day	28	1.0	<0.11	1.0
	DF-M-02		19-May-14	mg/dm²/day	35	1.0	<0.10	1.0
	DF-M-02		29-Jun-14	mg/dm²/day	41	0.23	<0.10	0.27
	DF-M-02	2014 to 2015	12-Sep-14	mg/dm²/day	33	0.21	<0.10	0.21
	DF-M-02		7-Dec-14	mg/dm²/day	86	0.66	<0.10	0.68
	DF-M-02		4-Jan-15	mg/dm²/day	30	0.65	<0.11	0.65
	DF-M-02		7-Feb-15	mg/dm²/day	35	0.84	<0.10	0.86
	DF-M-02		8-Mar-15	mg/dm²/day	27	1.1	<0.11	1.1
	DF-M-02		6-Apr-15	mg/dm²/day	30	0.90	<0.10	0.88
	DF-M-02		9-May-15	mg/dm²/day	33	3.0	<0.10	3.0
	DF-M-02		8-Jun-15	mg/dm²/day	30	1.4	<0.10	1.3
	DF-M-02		10-Jul-15	mg/dm²/day	32	0.66	<0.10	0.66
	DF-M-02	2015 to 2016	8-Oct-15	mg/dm²/day	33	0.29	<0.10	0.28
	DF-M-02		17-Nov-15	mg/dm²/day	40	0.46	<0.10	0.46
	DF-M-02		21-Dec-15	mg/dm²/day	34	0.89	<0.10	0.91
	DF-M-02		18-Jan-16	mg/dm²/day	28	2.6	<0.10	2.6
	DF-M-02		16-Feb-16	mg/dm²/day	29	2.1	<0.10	2.2
	DF-M-02		14-Mar-16	mg/dm²/day	27	6.5	<0.10	6.6
	DF-M-02		11-Apr-16	mg/dm²/day	28	3.3	<0.10	3.3
	DF-M-02		9-May-16	mg/dm²/day	28	13	0.93	14
	DF-M-02		11-Jun-16	mg/dm²/day	33	4.3	0.12	4.5
	DF-M-02		12-Jul-16	mg/dm²/day	31	1.3	<0.10	1.3
	DF-M-02	2016 to 2017	17-Oct-16	mg/dm²/day	24	<1.0	<1.0	<1.0
	DF-M-02		19-Nov-16	mg/dm²/day	33	5.9	<1.0	6.6
	DF-M-02		19-Dec-16	mg/dm²/day	30	0.90	<0.10	0.91
	DF-M-02		16-Jan-17	mg/dm²/day	28	3.1	0.16	3.3
	DF-M-02		17-Feb-17	mg/dm²/day	32	0.25	<0.10	0.26
	DF-M-02		22-Mar-17	mg/dm²/day	33	2.2	0.13	2.3
	DF-M-02		23-Apr-17	mg/dm²/day	32	1.1	<0.10	1.1
	DF-M-02		21-May-17	mg/dm²/day	28	4.0	0.14	4.2
	DF-M-02		19-Jun-17	mg/dm²/day	29	0.84	<0.10	0.88
	DF-M-02		22-Jul-17	mg/dm²/day	33	2.5	<0.10	2.5
	DF-M-02	2017 to 2018	15-Oct-17	mg/dm²/day	25	1.6	<0.10	1.7
	DF-M-02		14-Nov-17	mg/dm²/day	30	1.5	<0.10	1.6
	DF-M-02		10-Dec-17	mg/dm²/day	26	10	0.19	11
	DF-M-02		9-Jan-18	mg/dm²/day	30	1.8	<0.10	1.8
	DF-M-02		13-Feb-18	mg/dm²/day	35	4.6	0.17	4.7
	DF-M-02		17-Mar-18	mg/dm²/day	32	1.5	<0.10	1.5
	DF-M-02		20-Apr-18	mg/dm²/day	34	4.9	<0.10	5.0
	DF-M-02		13-May-18	mg/dm²/day	23	3.1	0.11	3.2

Notes: ID = identifier. mg/dm^2/day = milligram per square decimetre per day. < = less than. - = no data.

Table B.8: Dustfall Deposition Rates for Dustfall Monitoring Stations Near Sheardown Lake Northwest (NW), 2013 to 2025

Season	Station ID	Period	Sample Date	Unit	Sampling Days	Insoluble Dustfall		
						Fixed	Volatile	Total
Ice Cover	DF-M-02	2017 to 2018	15-Jun-18	mg/dm²/day	33	2.4	<0.10	2.4
	DF-M-02		17-Jul-18	mg/dm²/day	32	<0.10	<0.10	0.11
	DF-M-02	2018 to 2019	10-Oct-18	mg/dm²/day	27	4.4	<0.10	4.4
	DF-M-02		10-Nov-18	mg/dm²/day	31	2.7	<0.10	2.7
	DF-M-02		9-Dec-18	mg/dm²/day	29	1.8	<0.10	1.8
	DF-M-02		7-Jan-19	mg/dm²/day	29	3.5	0.19	3.7
	DF-M-02		4-Feb-19	mg/dm²/day	28	2.4	<0.10	2.5
	DF-M-02		4-Mar-19	mg/dm²/day	28	2.1	<0.10	2.1
	DF-M-02		2-Apr-19	mg/dm²/day	29	9.6	0.36	9.9
	DF-M-02		29-May-19	mg/dm²/day	27	1.7	<0.10	1.7
	DF-M-02		25-Jun-19	mg/dm²/day	28	0.23	<0.10	0.23
	DF-M-02		24-Jul-19	mg/dm²/day	28	1.0	<0.10	1.1
	DF-M-02	2019 to 2020	16-Oct-19	mg/dm²/day	28	0.50	<0.10	0.52
	DF-M-02		13-Nov-19	mg/dm²/day	28	0.20	<0.10	0.21
	DF-M-02		12-Dec-19	mg/dm²/day	29	2.8	<0.10	2.8
	DF-M-02		8-Jan-20	mg/dm²/day	27	0.71	<0.10	0.73
	DF-M-02		5-Feb-20	mg/dm²/day	28	1.3	<0.10	1.3
	DF-M-02		4-Mar-20	mg/dm²/day	28	1.9	<0.10	1.9
	DF-M-02		1-Apr-20	mg/dm²/day	28	5.1	0.32	5.5
	DF-M-02		1-May-20	mg/dm²/day	30	1.9	<0.10	2.0
	DF-M-02		29-May-20	mg/dm²/day	28	2.8	0.1	2.9
	DF-M-02		29-Jun-20	mg/dm²/day	31	0.43	<0.10	0.44
	DF-M-02		27-Jul-20	mg/dm²/day	28	0.92	<0.10	0.97
	DF-M-02	2020 to 2021	20-Dec-20	mg/dm²/day	31	1.2	<0.10	1.3
	DF-M-02		21-Oct-20	mg/dm²/day	30	4.8	0.1	4.9
	DF-M-02		19-Nov-20	mg/dm²/day	29	0.69	<0.10	0.73
	DF-M-02		18-Jan-21	mg/dm²/day	29	8.0	0.69	8.7
	DF-M-02		17-Feb-21	mg/dm²/day	30	1.3	<0.10	1.3
	DF-M-02		20-Mar-21	mg/dm²/day	31	1.6	<0.10	1.7
	DF-M-02		22-Apr-21	mg/dm²/day	33	1.8	<0.10	1.8
	DF-M-02		20-May-21	mg/dm²/day	28	1.2	<0.10	1.2
	DF-M-02		20-Jun-21	mg/dm²/day	31	1.4	<0.10	1.4
	DF-M-02		22-Jul-21	mg/dm²/day	32	0.27	<0.10	0.27
	DF-M-02	2021 to 2022	21-Oct-21	mg/dm²/day	29	0.85	<0.10	0.88
	DF-M-02		18-Nov-21	mg/dm²/day	28	1.0	<0.10	1.1
	DF-M-02		17-Dec-21	mg/dm²/day	29	5.9	0.15	6.1
	DF-M-02		15-Jan-22	mg/dm²/day	29	1.9	<0.10	2.0
	DF-M-02		17-Feb-22	mg/dm²/day	33	18	0.25	19
	DF-M-02		20-Mar-22	mg/dm²/day	31	3.3	<0.10	3.4
	DF-M-02		18-Apr-22	mg/dm²/day	29	5.8	0.11	5.9
	DF-M-02		18-May-22	mg/dm²/day	30	4.5	<0.10	4.5
	DF-M-02		17-Jun-22	mg/dm²/day	31	1.5	<0.10	1.5
	DF-M-02		16-Jul-22	mg/dm²/day	29	4.5	0.14	4.7
	DF-M-02	2022 to 2023	11-Oct-22	mg/dm²/day	29	0.97	<0.10	0.99
	DF-M-02		18-Nov-22	mg/dm²/day	30	5.1	<0.10	5.2
	DF-M-02		18-Dec-22	mg/dm²/day	38	0.59	<0.10	0.60
	DF-M-02		16-Jan-23	mg/dm²/day	29	2.4	< 0.10	2.4
	DF-M-02		16-Feb-23	mg/dm²/day	31	3.7	< 0.10	3.7
	DF-M-02		11-Mar-23	mg/dm²/day	23	2.5	< 0.10	2.5
	DF-M-02		10-Apr-23	mg/dm²/day	53	2.6	< 0.10	2.6
	DF-M-02		8-May-23	mg/dm²/day	81	2.6	< 0.10	2.6

Notes: ID = identifier. mg/dm^2/day = milligram per square decimetre per day. < = less than. - = no data.

Table B.8: Dustfall Deposition Rates for Dustfall Monitoring Stations Near Sheardown Lake Northwest (NW), 2013 to 2025

Season	Station ID	Period	Sample Date	Unit	Sampling Days	Insoluble Dustfall		
						Fixed	Volatile	Total
Ice Cover	DF-M-02	2022 to 2023	3-Jun-23	mg/dm²/day	26	1.1	< 0.10	1.1
	DF-M-02		1-Jul-23	mg/dm²/day	28	0.88	< 0.10	0.9
	DF-M-02	2023 to 2024	Oct-23	mg/dm²/day	n.a	n.a	n.a	n.a
	DF-M-02		19-Nov-23	mg/dm²/day	n.a	2.2	< 0.1	2.3
	DF-M-02		24-Dec-23	mg/dm²/day	35	3.7	< 0.1	3.8
	DF-M-02		23-Jan-24	mg/dm²/day	30	3.8	0.16	4.0
	DF-M-02		22-Feb-24	mg/dm²/day	30	5.3	0.1	5.5
	DF-M-02		23-Mar-24	mg/dm²/day	30	6.0	0.21	6.2
	DF-M-02		23-Apr-24	mg/dm²/day	31	1.6	<0.10	1.6
	DF-M-02		7-May-24	mg/dm²/day	14	3.0	<0.10	3.1
	DF-M-02		23-May-24	mg/dm²/day	16	1.8	<0.10	1.9
	DF-M-02		26-Jun-24	mg/dm²/day	34	1.3	<0.10	1.3
	DF-M-02		24-Jul-2024	mg/dm²/day	28	0.56	<0.10	0.6
	DF-M-02	2024 to 2025	17-Nov-24	mg/dm²/day	28	0.58	<0.10	0.61
	DF-M-02		15-Dec-24	mg/dm²/day	28	0.93	<0.10	0.99
	DF-M-02		13-Jan-25	mg/dm²/day	29	1.6	<0.10	1.7
	DF-M-02		10-Feb-25	mg/dm²/day	28	3.8	0.11	3.9
	DF-M-02		11-Mar-25	mg/dm²/day	29	<0.10	0.14	0.14
	DF-M-02		12-Apr-25	mg/dm²/day	32	3.3	<0.10	3.4
	DF-M-02		14-May-25	mg/dm²/day	32	2.5	<0.10	2.5
	DF-M-02		11-Jun-25	mg/dm²/day	28	1.3	<0.10	1.4
	DF-M-02		9-Jul-25	mg/dm²/day	28	1.9	<0.10	2.0
	DF-M-03	2013 to 2014	14-Dec-13	mg/dm²/day	39	0.35	<0.10	0.35
	DF-M-03		13-Jan-14	mg/dm²/day	30	0.30	<0.10	0.30
	DF-M-03		26-Feb-14	mg/dm²/day	44	<0.10	<0.10	<0.10
	DF-M-03		17-Mar-14	mg/dm²/day	19	<0.16	<0.16	<0.16
	DF-M-03		14-Apr-14	mg/dm²/day	28	0.16	<0.11	0.16
	DF-M-03		19-May-14	mg/dm²/day	35	0.69	<0.10	0.66
	DF-M-03		29-Jun-14	mg/dm²/day	41	0.29	<0.10	0.31
	DF-M-03	2014 to 2015	12-Sep-14	mg/dm²/day	33	0.45	<0.10	0.45
	DF-M-03		7-Dec-14	mg/dm²/day	86	3.0	<0.10	3.0
	DF-M-03		4-Jan-15	mg/dm²/day	30	0.90	<0.11	0.98
	DF-M-03		7-Feb-15	mg/dm²/day	38	0.51	<0.10	0.54
	DF-M-03		7-Mar-15	mg/dm²/day	24	0.79	<0.13	0.69
	DF-M-03		6-Apr-15	mg/dm²/day	30	1.9	<0.10	1.8
	DF-M-03		9-May-15	mg/dm²/day	33	3.3	<0.10	3.3
	DF-M-03		8-Jun-15	mg/dm²/day	30	2.5	<0.10	2.6
	DF-M-03		10-Jul-15	mg/dm²/day	32	1.7	<0.10	1.7
	DF-M-03	2015 to 2016	8-Oct-15	mg/dm²/day	32	0.50	<0.10	0.50
	DF-M-03		17-Nov-15	mg/dm²/day	40	0.75	<0.10	0.75
	DF-M-03		21-Dec-15	mg/dm²/day	34	0.45	<0.10	0.48
	DF-M-03		18-Jan-16	mg/dm²/day	28	0.99	<0.10	1.1
	DF-M-03		16-Feb-16	mg/dm²/day	29	1.1	<0.10	1.1
	DF-M-03		14-Mar-16	mg/dm²/day	27	1.6	<0.10	1.7
	DF-M-03		11-Apr-16	mg/dm²/day	28	7.6	0.28	7.9
	DF-M-03		9-May-16	mg/dm²/day	28	3.4	0.11	3.5
	DF-M-03		11-Jun-16	mg/dm²/day	33	2.5	<0.10	2.6
	DF-M-03		12-Jul-16	mg/dm²/day	31	4.9	0.15	5.0
	DF-M-03	2016 to 2017	17-Oct-16	mg/dm²/day	23	<1.0	<1.0	<1.0
	DF-M-03		19-Nov-16	mg/dm²/day	33	1.2	<0.10	1.2
	DF-M-03		19-Dec-16	mg/dm²/day	29	0.51	<0.10	0.54
	DF-M-03		16-Jan-17	mg/dm²/day	28	0.87	<0.10	0.89
	DF-M-03		17-Feb-17	mg/dm²/day	32	0.19	<0.10	0.19
	DF-M-03		22-Mar-17	mg/dm²/day	33	1.4	<0.10	1.5
	DF-M-03		23-Apr-17	mg/dm²/day	32	0.96	<0.10	1.0
	DF-M-03		21-May-17	mg/dm²/day	28	3.8	<0.10	3.9
	DF-M-03		19-Jun-17	mg/dm²/day	29	1.7	<0.10	1.7
	DF-M-03		22-Jul-17	mg/dm²/day	33	4.9	0.12	5.0
	DF-M-03	2017 to 2018	15-Oct-17	mg/dm²/day	25	2.6	<0.10	2.7
	DF-M-03		14-Nov-17	mg/dm²/day	30	0.76	<0.10	0.81

Notes: ID = identifier. mg/dm^2/day = milligram per square decimetre per day. < = less than. - = no data.

Table B.8: Dustfall Deposition Rates for Dustfall Monitoring Stations Near Sheardown Lake Northwest (NW), 2013 to 2025

Season	Station ID	Period	Sample Date	Unit	Sampling Days	Insoluble Dustfall		
						Fixed	Volatile	Total
Ice Cover	DF-M-03	2017 to 2018	10-Dec-17	mg/dm²/day	26	2.8	<0.10	2.9
	DF-M-03		9-Jan-18	mg/dm²/day	30	1.3	<0.10	1.3
	DF-M-03		13-Feb-18	mg/dm²/day	35	1.7	0.32	2.1
	DF-M-03		17-Mar-18	mg/dm²/day	32	0.92	<0.10	0.93
	DF-M-03		20-Apr-18	mg/dm²/day	34	2.4	<0.10	2.3
	DF-M-03		13-May-18	mg/dm²/day	23	1.4	<0.10	1.4
	DF-M-03		15-Jun-18	mg/dm²/day	33	4.3	<0.10	4.3
	DF-M-03		17-Jul-18	mg/dm²/day	29	1.5	<0.10	1.6
	DF-M-03	2018 to 2019	10-Oct-18	mg/dm²/day	27	3.5	<0.10	3.5
	DF-M-03		11-Nov-18	mg/dm²/day	32	1.1	<0.10	1.1
	DF-M-03		10-Dec-18	mg/dm²/day	29	0.48	<0.10	0.47
	DF-M-03		7-Jan-19	mg/dm²/day	28	1.1	<0.10	1.1
	DF-M-03		4-Feb-19	mg/dm²/day	29	1.6	<0.10	1.7
	DF-M-03		7-Mar-19	mg/dm²/day	30	2.4	<0.10	2.5
	DF-M-03		2-Apr-19	mg/dm²/day	26	6.9	0.46	7.4
	DF-M-03		2-May-19	mg/dm²/day	30	2.4	<0.10	2.5
	DF-M-03		29-May-19	mg/dm²/day	27	1.4	<0.10	1.4
	DF-M-03		26-Jun-19	mg/dm²/day	28	0.74	<0.10	0.76
	DF-M-03		24-Jul-19	mg/dm²/day	28	2.2	<0.10	2.3
	DF-M-03	2019 to 2020	16-Oct-19	mg/dm²/day	28	1.4	<0.10	1.5
	DF-M-03		13-Nov-19	mg/dm²/day	28	0.52	<0.10	0.54
	DF-M-03		12-Dec-19	mg/dm²/day	29	1.9	<0.10	2.0
	DF-M-03		8-Jan-20	mg/dm²/day	28	0.31	<0.10	0.33
	DF-M-03		5-Feb-20	mg/dm²/day	27	0.45	<0.10	0.46
	DF-M-03		4-Mar-20	mg/dm²/day	28	1.4	<0.10	1.4
	DF-M-03		1-Apr-20	mg/dm²/day	28	2.2	0.14	2.3
	DF-M-03		1-May-20	mg/dm²/day	30	3.9	0.1	4.0
	DF-M-03		29-May-20	mg/dm²/day	28	6.8	0.17	7.0
	DF-M-03		29-Jun-20	mg/dm²/day	31	1.9	<0.10	1.9
	DF-M-03		27-Jul-20	mg/dm²/day	28	3.1	<0.10	3.2
	DF-M-03	2020 to 2021	20-Dec-20	mg/dm²/day	31	0.48	<0.10	0.49
	DF-M-03		21-Oct-20	mg/dm²/day	30	5.8	0.12	6.0
	DF-M-03		19-Nov-20	mg/dm²/day	29	0.37	<0.10	0.38
	DF-M-03		18-Jan-21	mg/dm²/day	29	0.79	<0.10	0.83
	DF-M-03		17-Feb-21	mg/dm²/day	30	0.84	<0.10	0.89
	DF-M-03		20-Mar-21	mg/dm²/day	31	1.5	<0.10	1.5
	DF-M-03		25-Apr-21	mg/dm²/day	36	0.74	<0.10	0.78
	DF-M-03		21-May-21	mg/dm²/day	26	0.75	<0.10	0.78
	DF-M-03		21-Jun-21	mg/dm²/day	31	4.3	<0.10	4.4
	DF-M-03		22-Jul-21	mg/dm²/day	31	1.3	<0.10	1.4
	DF-M-03	2021-2022	21-Oct-21	mg/dm²/day	29	0.53	<0.10	0.56
	DF-M-03		18-Nov-21	mg/dm²/day	28	1.5	<0.10	1.6
	DF-M-03		17-Dec-21	mg/dm²/day	29	1.9	<0.10	2.0
	DF-M-03		15-Jan-22	mg/dm²/day	29	4.7	0.12	4.8
	DF-M-03		18-Feb-22	mg/dm²/day	34	6.9	0.21	7.1
	DF-M-03		19-Mar-22	mg/dm²/day	29	2.9	<0.10	3.0
	DF-M-03		18-Apr-22	mg/dm²/day	30	1.6	<0.10	1.7
	DF-M-03		18-May-22	mg/dm²/day	30	7.3	0.23	7.6
	DF-M-03		17-Jun-22	mg/dm²/day	30	4.2	0.11	4.4
	DF-M-03		16-Jul-22	mg/dm²/day	29	5.8	0.17	6.0
	DF-M-03	2022-2023	11-Oct-22	mg/dm²/day	29	0.56	<0.10	0.59

Notes: ID = identifier. mg/dm^2/day = milligram per square decimetre per day. < = less than. - = no data.

Table B.8: Dustfall Deposition Rates for Dustfall Monitoring Stations Near Sheardown Lake Northwest (NW), 2013 to 2025

Season	Station ID	Period	Sample Date	Unit	Sampling Days	Insoluble Dustfall		
						Fixed	Volatile	Total
Ice Cover	DF-M-03	2022 to 2023	18-Nov-22	mg/dm²/day	38	0.48	<0.10	0.49
	DF-M-03		20-Dec-22	mg/dm²/day	32	0.51	<0.10	0.52
	DF-M-03		16-Jan-23	mg/dm²/day	28	1.0	< 0.10	1.1
	DF-M-03		16-Feb-23	mg/dm²/day	31	0.92	< 0.10	0.95
	DF-M-03		11-Mar-23	mg/dm²/day	23	1.1	< 0.10	1.2
	DF-M-03		10-Apr-23	mg/dm²/day	111	6.0	0.1	6.1
	DF-M-03		9-May-23	mg/dm²/day	82	3.9	0.11	4.0
	DF-M-03		3-Jun-23	mg/dm²/day	25	2.9	0.11	3.0
	DF-M-03		1-Jul-23	mg/dm²/day	28	3.2	< 0.10	3.2
	DF-M-03	2023 to 2024	Oct-23	mg/dm²/day	n.a	n.a	n.a	n.a
	DF-M-03		24-Nov-23	mg/dm²/day	n.a	1.0	< 0.1	1.1
	DF-M-03		27-Dec-23	mg/dm²/day	33	1.8	< 0.1	1.9
	DF-M-03		23-Jan-24	mg/dm²/day	27	3.2	<0.10	3.3
	DF-M-03		22-Feb-24	mg/dm²/day	30	2.9	<0.10	3.0
	DF-M-03		23-Mar-24	mg/dm²/day	30	4.5	0.29	4.8
	DF-M-03		23-Apr-24	mg/dm²/day	31	1.5	<0.10	1.6
	DF-M-03		7-May-24	mg/dm²/day	14	1.2	<0.10	1.2
	DF-M-03		23-May-24	mg/dm²/day	16	5.6	0.13	5.7
	DF-M-03		26-Jun-24	mg/dm²/day	34	3.3	<0.10	3.4
	DF-M-03		24-Jul-24	mg/dm²/day	28	1.9	<0.10	1.9
	DF-M-03	2024 to 2025	17-Nov-24	mg/dm²/day	28	0.45	<0.10	0.47
	DF-M-03		15-Dec-24	mg/dm²/day	28	0.45	<0.10	0.48
	DF-M-03		13-Jan-25	mg/dm²/day	29	0.72	<0.10	0.75
	DF-M-03		10-Feb-25	mg/dm²/day	28	2.2	<0.10	2.3
	DF-M-03		11-Mar-25	mg/dm²/day	29	1.7	<0.10	1.8
	DF-M-03		12-Apr-25	mg/dm²/day	32	3.9	0.12	4.0
	DF-M-03		14-May-25	mg/dm²/day	32	2.1	<0.10	2.1
	DF-M-03		11-Jun-25	mg/dm²/day	28	1.3	<0.10	1.4
	DF-M-03		9-Jul-25	mg/dm²/day	28	3.6	<0.10	3.7
Open Water	DF-M-01	2013	17-Aug-13	mg/dm²/day	28	<0.11	<0.11	<0.11
	DF-M-01		18-Sep-13	mg/dm²/day	33	0.10	<0.10	0.10
	DF-M-01	2014	10-Aug-14	mg/dm²/day	42	0.29	<0.10	0.35
	DF-M-01	2015	8-Aug-15	mg/dm²/day	29	1.4	<0.10	1.4
	DF-M-01		6-Sep-15	mg/dm²/day	29	2.6	0.14	2.7
	DF-M-01	2016	15-Aug-16	mg/dm²/day	34	1.9	<0.10	2.0
	DF-M-01		23-Sep-16	mg/dm²/day	39	0.90	<0.10	0.92
	DF-M-01	2017	19-Aug-17	mg/dm²/day	29	0.36	<0.10	0.40
	DF-M-01		20-Sep-17	mg/dm²/day	32	0.18	<0.10	0.20
	DF-M-01	2018	14-Aug-18	mg/dm²/day	28	0.12	<0.10	0.13
	DF-M-01		13-Sep-18	mg/dm²/day	30	0.26	<0.10	0.27
	DF-M-01	2019	20-Aug-19	mg/dm²/day	27	1.2	<0.10	1.2
	DF-M-01		18-Sep-19	mg/dm²/day	29	0.88	<0.10	0.90
	DF-M-01	2020	23-Aug-20	mg/dm²/day	27	0.91	<0.10	0.94
	DF-M-01		21-Sep-20	mg/dm²/day	29	0.56	<0.10	0.57
	DF-M-01	2021	21-Aug-21	mg/dm²/day	30	1.2	<0.10	1.2
	DF-M-01		22-Sep-21	mg/dm²/day	31	3.2	0.12	3.3
	DF-M-01	2022	14-Aug-22	mg/dm²/day	30	1.6	0.14	1.7
	DF-M-01		12-Sep-22	mg/dm²/day	29	0.48	<0.10	0.51
	DF-M-01	2023	29-Jul-23	mg/dm²/day	28	2.4	< 0.10	2.4
	DF-M-01		28-Aug-23	mg/dm²/day	30	0.4	< 0.10	0.41
	DF-M-01		25-Sep-23	mg/dm²/day	28	4.1	0.18	4.3
	DF-M-01	2024	21-Aug-24	mg/dm²/day	28	0.46	<0.10	0.49
	DF-M-01		20-Sep-24	mg/dm²/day	30	<0.34	<0.10	<0.34
	DF-M-01		20-Oct-24	mg/dm²/day	30	1.1	<0.10	1.2
	DF-M-01	2025	9-Aug-25	mg/dm²/day	31	<0.10	<0.10	<0.10
	DF-M-01		6-Sep-25	mg/dm²/day	28	0.23	<0.10	0.26
	DF-M-01		4-Oct-25	mg/dm²/day	28	-	-	1.1
	DF-M-02	2013	17-Aug-13	mg/dm²/day	28	<0.11	<0.11	<0.11
	DF-M-02		18-Sep-13	mg/dm²/day	33	<0.10	<0.10	<0.10
	DF-M-02	2014	10-Aug-14	mg/dm²/day	42	0.16	<0.10	0.19
	DF-M-02	2015	8-Aug-15	mg/dm²/day	29	0.91	<0.10	0.94
	DF-M-02		6-Sep-15	mg/dm²/day	29	2.5	<0.10	2.5
	DF-M-02	2016	15-Aug-16	mg/dm²/day	34	0.53	<0.10	0.57

Notes: ID = identifier. mg/dm^2/day = milligram per square decimetre per day. < = less than. - = no data.

Table B.8: Dustfall Deposition Rates for Dustfall Monitoring Stations Near Sheardown Lake Northwest (NW), 2013 to 2025

Season	Station ID	Period	Sample Date	Unit	Sampling Days	Insoluble Dustfall		
						Fixed	Volatile	Total
Open Water	DF-M-02	2016	23-Sep-16	mg/dm²/day	39	0.85	<0.10	0.89
	DF-M-02	2017	19-Aug-17	mg/dm²/day	30	0.20	<0.10	0.22
	DF-M-02		20-Sep-17	mg/dm²/day	30	0.55	<0.10	0.56
	DF-M-02	2018	14-Aug-18	mg/dm²/day	28	<0.10	<0.10	<0.10
	DF-M-02		11-Sep-18	mg/dm²/day	30	0.25	<0.10	0.26
	DF-M-02	2019	20-Aug-19	mg/dm²/day	27	0.93	<0.10	0.97
	DF-M-02		18-Sep-19	mg/dm²/day	29	0.60	<0.10	0.62
	DF-M-02	2020	23-Aug-20	mg/dm²/day	27	1.1	<0.10	1.2
	DF-M-02		21-Sep-20	mg/dm²/day	29	0.65	<0.10	0.66
	DF-M-02	2021	21-Aug-21	mg/dm²/day	30	0.36	<0.10	0.38
	DF-M-02		22-Sep-21	mg/dm²/day	31	2.8	0.11	2.9
	DF-M-02	2022	14-Aug-22	mg/dm²/day	29	1.5	<0.10	1.6
	DF-M-02		12-Sep-22	mg/dm²/day	29	1.0	<0.10	1.0
	DF-M-02	2023	29-Jul-23	mg/dm²/day	28	2.0	< 0.10	2.1
	DF-M-02		28-Aug-23	mg/dm²/day	30	0.24	< 0.10	0.26
	DF-M-02		25-Sep-23	mg/dm²/day	28	1.4	< 0.10	1.5
	DF-M-02	2024	21-Aug-24	mg/dm²/day	28	0.5	<0.10	0.52
	DF-M-02		20-Sep-24	mg/dm²/day	30	<0.40	<0.10	<0.40
	DF-M-02		20-Oct-24	mg/dm²/day	30	0.32	<0.10	0.34
	DF-M-02	2025	9-Aug-25	mg/dm²/day	31	<0.10	<0.10	<0.10
	DF-M-02		6-Sep-25	mg/dm²/day	28	0.23	<0.10	0.24
	DF-M-02		4-Oct-25	mg/dm²/day	28	-	-	1.6
	DF-M-03	2013	17-Aug-13	mg/dm²/day	28	<0.11	<0.11	<0.11
	DF-M-03		18-Sep-13	mg/dm²/day	33	0.52	<0.10	0.52
	DF-M-03	2014	10-Aug-14	mg/dm²/day	42	0.13	<0.10	0.15
	DF-M-03	2015	8-Aug-15	mg/dm²/day	29	0.76	<0.10	0.85
	DF-M-03		6-Sep-15	mg/dm²/day	29	5.3	0.16	5.4
	DF-M-03	2016	15-Aug-16	mg/dm²/day	34	1.1	<0.10	1.1
	DF-M-03		24-Sep-16	mg/dm²/day	40	1.3	<0.10	1.4
	DF-M-03	2017	19-Aug-17	mg/dm²/day	30	0.9	<0.10	0.95
	DF-M-03		20-Sep-17	mg/dm²/day	30	1.1	<0.10	1.2
	DF-M-03	2018	16-Aug-18	mg/dm²/day	30	0.33	<0.10	0.34
	DF-M-03		13-Sep-18	mg/dm²/day	28	0.52	<0.10	0.54
	DF-M-03	2019	20-Aug-19	mg/dm²/day	29	3.2	0.11	3.3
	DF-M-03		18-Sep-19	mg/dm²/day	27	4.6	0.15	4.8
	DF-M-03	2020	23-Aug-20	mg/dm²/day	27	2.1	<0.10	2.1
	DF-M-03		21-Sep-20	mg/dm²/day	29	1.3	<0.10	1.4
	DF-M-03	2021	21-Aug-21	mg/dm²/day	30	0.48	<0.10	0.5
	DF-M-03		22-Sep-21	mg/dm²/day	31	7.8	0.19	8.0
	DF-M-03	2022	14-Aug-22	mg/dm²/day	30	4.3	0.14	4.4
	DF-M-03		12-Sep-22	mg/dm²/day	29	1.5	<0.10	1.5
	DF-M-03	2023	29-Jul-23	mg/dm²/day	28	3.5	< 0.10	3.6
	DF-M-03		28-Aug-23	mg/dm²/day	30	0.16	< 0.10	0.17
	DF-M-03		25-Sep-23	mg/dm²/day	28	10	0.39	11
	DF-M-03	2024	21-Aug-24	mg/dm²/day	28	4.3	0.1	4.4
	DF-M-03		20-Sep-24	mg/dm²/day	30	<0.50	<0.10	<0.50
	DF-M-03		20-Oct-24	mg/dm²/day	30	1.0	<0.10	1.1
	DF-M-03	2025	9-Aug-25	mg/dm²/day	31	<0.10	<0.10	<0.10
	DF-M-03		7-Sep-25	mg/dm²/day	29	1.5	<0.10	1.5
	DF-M-03		4-Oct-25	mg/dm²/day	27	-	-	3.8

Notes: ID = identifier. mg/dm^2/day = milligram per square decimetre per day. < = less than. - = no data.

APPENDIX C
BENTHIC INVERTEBRATE COMMUNITY SEDIMENTATION CORRELATIONS

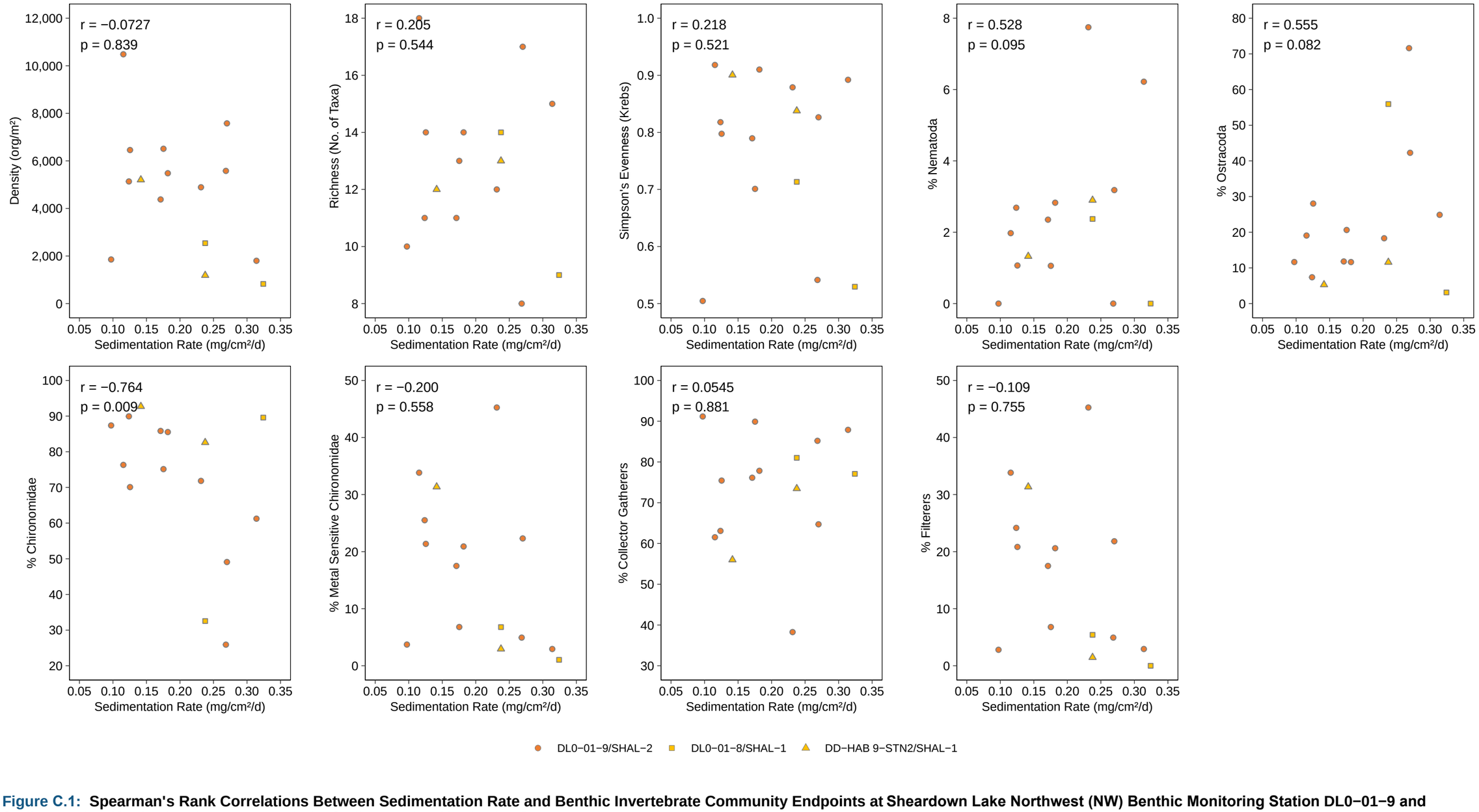


Figure C.1: Spearman's Rank Correlations Between Sedimentation Rate and Benthic Invertebrate Community Endpoints at Sheardown Lake Northwest (NW) Benthic Monitoring Station DL0−01−9 and Sedimentation Monitoring Area SHAL-2, Lake Sedimentation Monitoring Program, 2015 to 2025

Notes: SHAL−1 stations were not included in the correlation analysis, but are included in the plots for reference. "mg" = milligram; "cm^2" = centimeters squared; "d" = day; "m^2" = meters squared; "No." = number; "%" = percent.

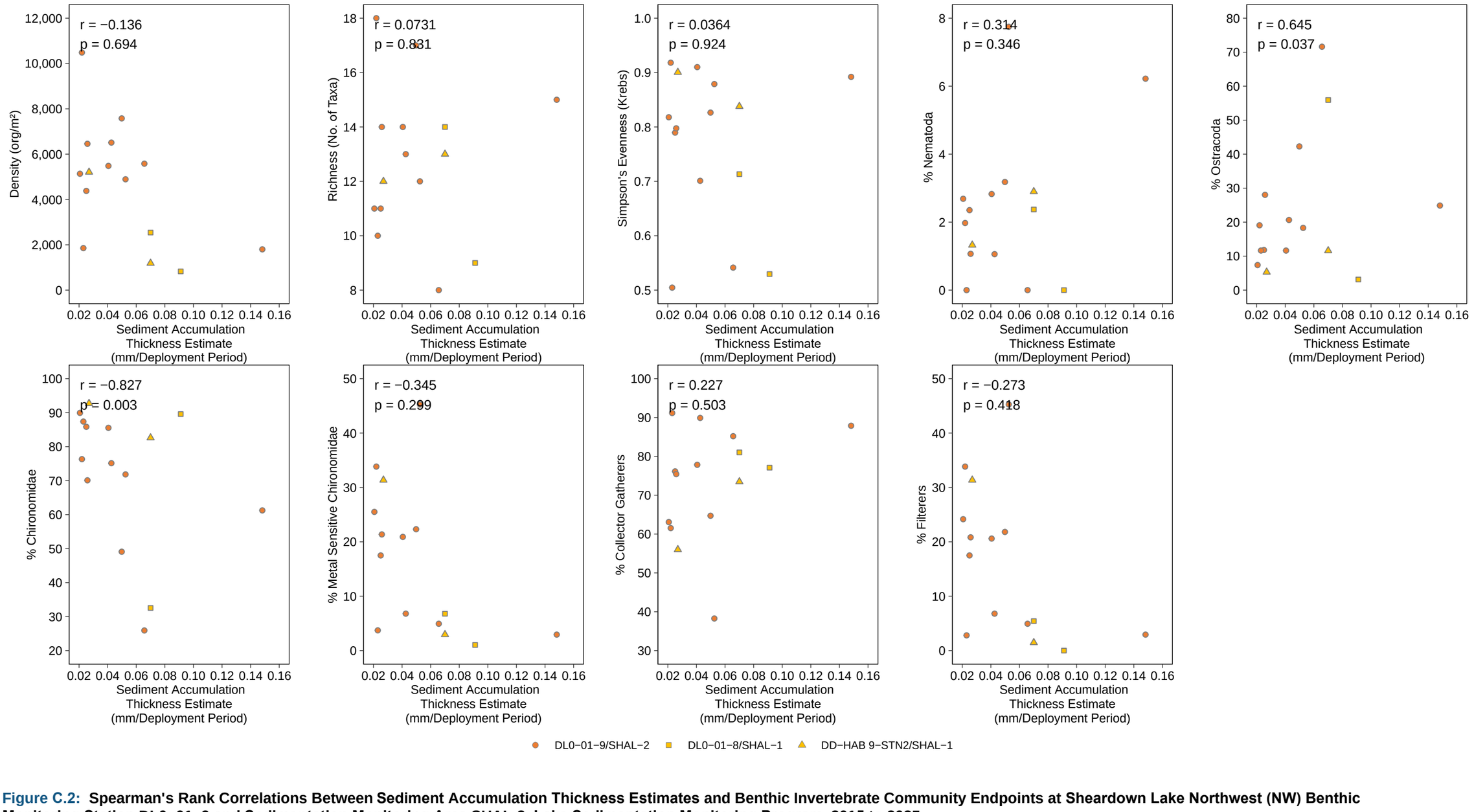


Figure C.2: Spearman's Rank Correlations Between Sediment Accumulation Thickness Estimates and Benthic Invertebrate Community Endpoints at Sheardown Lake Northwest (NW) Benthic Monitoring Station DL0−01−9 and Sedimentation Monitoring Area SHAL-2, Lake Sedimentation Monitoring Program, 2015 to 2025

Notes: SHAL−1 stations were not included in the correlation analysis, but are included in the plots for reference. "mm" = millimeter; "m^2" = meters squared; "No." = number; "%" = percent.

Table C.1: Benthic Invertebrate Community Endpoints Used in Sedimentation Correlation Analyses for Sheardown Lake Northwest (NW), Lake Sedimentation Monitoring Study, 2015 to 2025

Habitat	Station	Year	Density (organism/m²)	Richness (No. of Taxa)	Simpson's Evenness (Krebs)	% Nematoda	% Ostracoda	% Chironomidae	% Metal Sensitive Chironomidae	% Collector Gatherers	% Filterers
Littoral	DL0-01-9/SHAL-2	2015	5,136	11.0	0.818	2.69	7.38	89.9	25.5	63.1	24.2
		2016	10,484	18.0	0.918	1.97	19.1	76.3	33.8	61.5	33.8
		2017	4,378	11.0	0.790	2.35	11.8	85.8	17.5	76.1	17.5
		2018	5,481	14.0	0.910	2.83	11.6	85.5	20.9	77.8	20.6
		2019	1,854	10.00	0.505	0.00	11.6	87.4	3.72	91.2	2.80
		2020	6,457	14.0	0.798	1.07	28.0	70.1	21.4	75.4	20.8
		2021	6,510	13.0	0.701	1.06	20.6	75.1	6.79	89.9	6.79
		2022	4,891	12.0	0.879	7.75	18.3	71.8	45.2	38.3	45.2
		2023	7,578	17.0	0.826	3.18	42.3	49.1	22.3	64.7	21.8
		2024	5,580	8.00	0.541	0.00	71.6	25.9	4.94	85.2	4.94
		2025	1,800	15.0	0.892	6.22	24.9	61.2	2.94	87.9	2.94
	DL0-01-8/SHAL-1	2024	827	9.00	0.530	0.00	3.12	89.6	1.04	77.1	0.00
		2025	2,540	14.0	0.713	2.37	55.9	32.5	6.78	81.0	5.42
	DD-HAB 9-STN2/ SHAL-1	2016	5,205	12.0	0.901	1.33	5.30	92.7	31.4	56.0	31.4
		2025	1,188	13.0	0.838	2.90	11.6	82.6	2.95	73.5	1.48

Notes: m^2 = square metres. No. = number. % = percent.

APPENDIX D
BULK DENSITY METHODS

Method: Density 1

Method Reference: Density of Solid Materials by Pyknometer

Method Summary:

Sample Preparation: Samples were crushed and/or ground prior to analysis.

Sample analysis: All flasks were cleaned, dried, and pre-weighed. Each flask was filled to volume with deionized water and placed under vacuum then weighed. An aliquot of sample was weighed and then transferred to one of the pre-weighed volumetric flasks. The flask was then topped up with DI water and placed under vacuum until all the air was evacuated. The flasks were then filled to volume and reweighed. All weights were entered into the database and the rock density calculated. The temperature of the water was recorded at the time of all measurements and included in the calculations.

Detection Limit: The detection limit is 0.01 g/cc.

Quality Control: One of every 40 samples is analyzed in duplicate. All Quality Control results must be within specified limits otherwise corrective action is taken.

Geoanalytical Laboratories
Saskatchewan Research Council | 2901 Cleveland Avenue | Saskatoon SK
306-933-8118 | Fax 306-933-5656 | geolab@src.sk.ca | www.src.sk.ca

APPENDIX E
RAW LABORATORY REPORTS

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	:	**WT2522742**			
Client	:	**Baffinland Iron Mines Corporation**	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Environmental Lab Results	Account Manager	:	Rick Hawthorne
Address	:	360 Oakville Place Dr Suite 300 Oakville Ontario Canada L6H 6K8	Address	:	60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	----	Telephone	:	+1 519 886 6910
Project	:	SEDIMENT TRAPS	Date Samples Received	:	15-Aug-2025 09:00
PO	:	4500156571	Date Analysis Commenced	:	26-Aug-2025
C-O-C number	:	25 07 09 - SEDIMENT TRAPS	Issue Date	:	11-Sep-2025 08:45
Sampler	:	AG/JM/ET			
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	15			
No. of samples analysed	:	15			

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
- Guideline Comparison

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*
Kevin Baxter		Inorganics, Winnipeg, Manitoba

No Breaches Found

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.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key: LOR: Limit of Reporting (detection limit).

Unit	*Description*
g	grams

>: greater than.
<: less than.

Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Analytical Results Evaluation

Matrix: Soil/Solid				Client sample ID	SL-SHAL-2C_2025-07-05 ----	SL-SHAL-2E_2025-07-05 ----	SL-SHAL-2A_2025-07-05 ----	SL-DEEP-1C_2025-07-05 ----	SL-SHAL-1D_2025-07-05 ----	SL-SHAL-1B_2025-07-05 ----	SL-SHAL-1A_2025-07-06 ----
				Client sampling date / time	05-Jul-2025 10:10	05-Jul-2025 10:45	05-Jul-2025 11:20	05-Jul-2025 13:55	05-Jul-2025 15:20	05-Jul-2025 16:05	06-Jul-2025 14:20
				Sub-Matrix	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
Analyte	CAS Number	Method/Lab	Unit		WT2522742-001	WT2522742-002	WT2522742-003	WT2522742-004	WT2522742-005	WT2522742-006	WT2522742-007
					Result	Result	Result	Result	Result	Result	Result
Physical Tests											
Sample weight, total	----	E146/WP	g		3.47	0.79	1.06	2.38	1.06	0.99	1.06

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

Matrix: Soil/Solid				Client sample ID	SL-SHAL-2D_2025-07-07 ----	SL-SHAL-2B_2025-07-07 ----	SL-DEEP-1B_2025-07-07 ----	SL-DEEP-1A_2025-07-07 ----	SL-SHAL-1E_2025-07-08 ----	SL-DEEP-1D_2025-07-08 ----	SL-SHAL-1C_2025-07-08 ----
				Client sampling date / time	07-Jul-2025 11:40	07-Jul-2025 12:35	07-Jul-2025 13:15	07-Jul-2025 14:38	08-Jul-2025 10:30	08-Jul-2025 13:10	08-Jul-2025 15:15
				Sub-Matrix	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
Analyte	CAS Number	Method/Lab	Unit		WT2522742-008	WT2522742-009	WT2522742-010	WT2522742-011	WT2522742-012	WT2522742-013	WT2522742-014
					Result	Result	Result	Result	Result	Result	Result
Physical Tests											
Sample weight, total	----	E146/WP	g		1.06	1.05	1.35	1.42	0.83	1.42	1.05

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

Matrix: Soil/Solid				Client sample ID	SL-DEEP-1E_2025-07-09 ----	----	----	----	----	----	----
				Client sampling date / time	09-Jul-2025 08:35	----	----	----	----	----	----
				Sub-Matrix	Soil/Solid	----	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit		WT2522742-015	----	----	----	----	----	----
					Result	----	----	----	----	----	----
Physical Tests											
Sample weight, total	----	E146/WP	g		1.32	----	----	----	----	----	----

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

Summary of Guideline Limits

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2522742**			
Client	:	**Baffinland Iron Mines Corporation**	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Environmental Lab Results	Account Manager	:	Rick Hawthorne
Address	:	360 Oakville Place Dr Suite 300 Oakville Ontario Canada L6H 6K8	Address	:	60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	----	E-mail	:	Rick.Hawthorne@ALSGlobal.com
Project	:	SEDIMENT TRAPS	Telephone	:	+1 519 886 6910
PO	:	4500156571	Date Samples Received	:	15-Aug-2025 09:00
C-O-C number	:	25 07 09 - SEDIMENT TRAPS	Date Analysis Commenced	:	26-Aug-2025
Sampler	:	AG/JM/ET	Issue Date	:	11-Sep-2025 08:45
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	15			
No. of samples analysed	:	15			

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

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*
Kevin Baxter		Inorganics, Winnipeg, Manitoba

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*
g	grams

<: 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	SL-SHAL-2C_2025-07-05 ----	SL-SHAL-2E_2025-07-05 ----	SL-SHAL-2A_2025-07-05 ----	SL-DEEP-1C_2025-07-05 ----	SL-SHAL-1D_2025-07-05 ----
					Client sampling date / time	05-Jul-2025 10:10	05-Jul-2025 10:45	05-Jul-2025 11:20	05-Jul-2025 13:55	05-Jul-2025 15:20
						WT2522742-001	WT2522742-002	WT2522742-003	WT2522742-004	WT2522742-005
						Result	Result	Result	Result	Result
Physical Tests										
Sample weight, total	----	E146/WP	0.10	g		3.47	0.79	1.06	2.38	1.06

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

Analytical Results

Sub-Matrix: Soil/Solid
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SL-SHAL-1B_2025-07-05 ----	SL-SHAL-1A_2025-07-06 ----	SL-SHAL-2D_2025-07-07 ----	SL-SHAL-2B_2025-07-07 ----	SL-DEEP-1B_2025-07-07 ----
					Client sampling date / time	05-Jul-2025 16:05	06-Jul-2025 14:20	07-Jul-2025 11:40	07-Jul-2025 12:35	07-Jul-2025 13:15
						WT2522742-006	WT2522742-007	WT2522742-008	WT2522742-009	WT2522742-010
						Result	Result	Result	Result	Result
Physical Tests										
Sample weight, total	----	E146/WP	0.10	g		0.99	1.06	1.06	1.05	1.35

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

Analytical Results

Sub-Matrix: Soil/Solid
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SL-DEEP-1A_2025-07-07 ----	SL-SHAL-1E_2025-07-08 ----	SL-DEEP-1D_2025-07-08 ----	SL-SHAL-1C_2025-07-08 ----	SL-DEEP-1E_2025-07-09 ----
					Client sampling date / time	07-Jul-2025 14:38	08-Jul-2025 10:30	08-Jul-2025 13:10	08-Jul-2025 15:15	09-Jul-2025 08:35
						WT2522742-011	WT2522742-012	WT2522742-013	WT2522742-014	WT2522742-015
						Result	Result	Result	Result	Result
Physical Tests										
Sample weight, total	----	E146/WP	0.10	g		1.42	0.83	1.42	1.05	1.32

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

ALS Canada Ltd.

right solutions.
right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2522742**	Page	: 1 of 6
Client	: **Baffinland Iron Mines Corporation**	Laboratory	: ALS Environmental - Waterloo
Contact	: Environmental Lab Results	Account Manager	: Rick Hawthorne
Address	: 360 Oakville Place Dr Suite 300 Oakville ON Canada L6H 6K8	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: ----	Telephone	: +1 519 886 6910
Project	: SEDIMENT TRAPS	Date Samples Received	: 15-Aug-2025 09:00
PO	: 4500156571	Issue Date	: 11-Sep-2025 08:45
C-O-C number	: 25 07 09 - SEDIMENT TRAPS		
Sampler	: AG/JM/ET		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 15		
No. of samples analysed	: 15		

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 Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

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.

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*
Physical Tests : Total Sample Weight by Gravimetry										
HDPE Pail SL-DEEP-1A_2025-07-07	E146	07-Jul-2025	----	----	----		04-Sep-2025	----	----	
Physical Tests : Total Sample Weight by Gravimetry										
HDPE Pail SL-DEEP-1B_2025-07-07	E146	07-Jul-2025	----	----	----		04-Sep-2025	----	----	
Physical Tests : Total Sample Weight by Gravimetry										
HDPE Pail SL-DEEP-1C_2025-07-05	E146	05-Jul-2025	----	----	----		28-Aug-2025	----	----	
Physical Tests : Total Sample Weight by Gravimetry										
HDPE Pail SL-DEEP-1D_2025-07-08	E146	08-Jul-2025	----	----	----		05-Sep-2025	----	----	
Physical Tests : Total Sample Weight by Gravimetry										
HDPE Pail SL-DEEP-1E_2025-07-09	E146	09-Jul-2025	----	----	----		08-Sep-2025	----	----	
Physical Tests : Total Sample Weight by Gravimetry										
HDPE Pail SL-SHAL-1A_2025-07-06	E146	06-Jul-2025	----	----	----		29-Aug-2025	----	----	
Physical Tests : Total Sample Weight by Gravimetry										
HDPE Pail SL-SHAL-1B_2025-07-05	E146	05-Jul-2025	----	----	----		29-Aug-2025	----	----	

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 : Total Sample Weight by Gravimetry										
HDPE Pail SL-SHAL-1C_2025-07-08	E146	08-Jul-2025	----	----	----		08-Sep-2025	----	----	
Physical Tests : Total Sample Weight by Gravimetry										
HDPE Pail SL-SHAL-1D_2025-07-05	E146	05-Jul-2025	----	----	----		28-Aug-2025	----	----	
Physical Tests : Total Sample Weight by Gravimetry										
HDPE Pail SL-SHAL-1E_2025-07-08	E146	08-Jul-2025	----	----	----		05-Sep-2025	----	----	
Physical Tests : Total Sample Weight by Gravimetry										
HDPE Pail SL-SHAL-2A_2025-07-05	E146	05-Jul-2025	----	----	----		27-Aug-2025	----	----	
Physical Tests : Total Sample Weight by Gravimetry										
HDPE Pail SL-SHAL-2B_2025-07-07	E146	07-Jul-2025	----	----	----		03-Sep-2025	----	----	
Physical Tests : Total Sample Weight by Gravimetry										
HDPE Pail SL-SHAL-2C_2025-07-05	E146	05-Jul-2025	----	----	----		26-Aug-2025	----	----	
Physical Tests : Total Sample Weight by Gravimetry										
HDPE Pail SL-SHAL-2D_2025-07-07	E146	07-Jul-2025	----	----	----		03-Sep-2025	----	----	
Physical Tests : Total Sample Weight by Gravimetry										
HDPE Pail SL-SHAL-2E_2025-07-05	E146	05-Jul-2025	----	----	----		27-Aug-2025	----	----	

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 Control Samples (LCS)							
Total Sample Weight by Gravimetry	E146	2206155	8	15	53.3	5.0	✓
Method Blanks (MB)							
Total Sample Weight by Gravimetry	E146	2206155	8	15	53.3	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
Total Sample Weight by Gravimetry	E146 ALS Environmental - Winnipeg	Soil/Solid	Direct Measurement	The whole sample is removed from the sample container and weighed.

QUALITY CONTROL REPORT

Work Order	: **WT2522742**	Page	: 1 of 4
Client	: Baffinland Iron Mines Corporation	Laboratory	: ALS Environmental - Waterloo
Contact	: Environmental Lab Results	Account Manager	: Rick Hawthorne
Address	: 360 Oakville Place Dr Suite 300 Oakville ON Canada L6H 6K8	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: ----	Telephone	: +1 519 886 6910
Project	: SEDIMENT TRAPS	Date Samples Received	: 15-Aug-2025 09:00
PO	: 4500156571	Date Analysis Commenced	: 26-Aug-2025
C-O-C number	: 25 07 09 - SEDIMENT TRAPS	Issue Date	: 11-Sep-2025 08:45
Sampler	: AG/JM/ET		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 15		
No. of samples analysed	: 15		

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:

- 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*
Kevin Baxter	Supervisor - Inorganic	Winnipeg Inorganics, Winnipeg, Manitoba

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.

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: 2206155)						
Sample weight, total	----	E146	0.1	g	<0.10	----
Physical Tests (QCLot: 2206160)						
Sample weight, total	----	E146	0.1	g	<0.10	----
Physical Tests (QCLot: 2206164)						
Sample weight, total	----	E146	0.1	g	<0.10	----
Physical Tests (QCLot: 2206183)						
Sample weight, total	----	E146	0.1	g	<0.10	----
Physical Tests (QCLot: 2206191)						
Sample weight, total	----	E146	0.1	g	<0.10	----
Physical Tests (QCLot: 2206196)						
Sample weight, total	----	E146	0.1	g	<0.10	----
Physical Tests (QCLot: 2206206)						
Sample weight, total	----	E146	0.1	g	<0.10	----
Physical Tests (QCLot: 2206238)						
Sample weight, total	----	E146	0.1	g	<0.10	----

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: 2206155)									
Sample weight, total	----	E146	0.1	g	0.4 g	89.0	85.0	115	----
Physical Tests (QCLot: 2206160)									
Sample weight, total	----	E146	0.1	g	0.4 g	88.4	85.0	115	----
Physical Tests (QCLot: 2206164)									
Sample weight, total	----	E146	0.1	g	0.4 g	100.0	85.0	115	----
Physical Tests (QCLot: 2206183)									
Sample weight, total	----	E146	0.1	g	0.4 g	101	85.0	115	----
Physical Tests (QCLot: 2206191)									
Sample weight, total	----	E146	0.1	g	0.4 g	113	85.0	115	----
Physical Tests (QCLot: 2206196)									
Sample weight, total	----	E146	0.1	g	0.4 g	93.4	85.0	115	----
Physical Tests (QCLot: 2206206)									
Sample weight, total	----	E146	0.1	g	0.4 g	89.2	85.0	115	----
Physical Tests (QCLot: 2206238)									
Sample weight, total	----	E146	0.1	g	0.4 g	96.1	85.0	115	----

Baffinland

Chain of Custody: 25 07 09 - Sediment Traps

Client Info	Project Info	Laboratory Info	
Baffinland Iron Mine Corporation 2275 Upper Middle Rd E, Suite 300 Oakville, ON, L6H 0C3 **Phone:** 647-253-0596 x6016/6039/4131 **Email:** environment.coordinators@baffinland.com; environment.superintendents@baffinland.com	**Job Reference (Project):** Sediment Traps **Task:** , AEMP_Sediment_240705 **Site:** MS	**Lab Name:** ALS Waterloo **Contact:** Rick Hawthorne **Phone:** 519.886.6910 **Email:** Rick.Hawthorne@ALSGlobal.com	**Address:** Unit 1 - 60 Northland Road Waterloo, ON,N2V 2B8
Email Invoice: ap@baffinland.com; environment.superintendents@baffinland.com **Email EDD:** bim.equissa@baffinland.com **Email COA:** environment.labresults@baffinland.com	**Turn around Time:** Routine (R) **Sampler 1:** AG **Sampler 2:** JM **Sampler 3:** ET	**ALS Quote #:** WT2020BIMC1000001 **ALS PO #:** 4500156571	**Lab**

Environmental Division
Waterloo
Work Order Reference
WT2522742

Telephone : +1 519 886 6910

Sample Details				Field Data		Anal											
Sample ID (sys_sample_code)	Location (sys_loc_code)	Sample Date and Time	Matrix			Total # of Containers	ALS_AEMP (SED)	E440 & E510	TOC								
SL-SHAL-2C_2025-07-05	SL-SHAL-2C	7/5/2025 10:10:00 AM	SE			1	X	X	X								
SL-SHAL-2E_2025-07-05	SL-SHAL-2E	7/5/2025 10:45:00 AM	SE			1	X	X	X								
SL-SHAL-2A_2025-07-05	SL-SHAL-2A	7/5/2025 11:20:00 AM	SE			1	X	X	X								
SL-DEEP-1C_2025-07-05	SL-DEEP-1C	7/5/2025 1:55:00 PM	SE			1	X	X	X								
SL-SHAL-1D_2025-07-05	SL-SHAL-1D	7/5/2025 3:20:00 PM	SE			1	X	X	X								
SL-SHAL-1B_2025-07-05	SL-SHAL-1B	7/5/2025 4:05:00 PM	SE			1	X	X	X								
SL-SHAL-1A_2025-07-06	SL-SHAL-1A	7/6/2025 2:20:00 PM	SE			1	X	X	X								
SL-SHAL-2D_2025-07-07	SL-SHAL-2D	7/7/2025 11:40:00 AM	SE			1	X	X	X								

Baffinland

Sample Details				Field Data		Analysis Requested													
Sample ID (sys_sample_code)	Location (sys_loc_code)	Sample Date and Time	Matrix			Total # of Containers	ALS_AEMP (SED)	E440 & E510	TOC										
SL-SHAL-2B_2025-07-07	SL-SHAL-2B	7/7/2025 12:35:00 PM	SE			1	X	X	X										
SL-DEEP-1B_2025-07-07	SL-DEEP-1B	7/7/2025 1:15:00 PM	SE			1	X	X	X										
SL-DEEP-1A_2025-07-07	SL-DEEP-1A	7/7/2025 2:38:00 PM	SE			1	X	X	X										
SL-SHAL-1E_2025-07-08	SL-SHAL-1E	7/8/2025 10:30:00 AM	SE			1	X	X	X										
SL-DEEP-1D_2025-07-08	SL-DEEP-1D	7/8/2025 1:10:00 PM	SE			1	X	X	X										
SL-SHAL-1C_2025-07-08	SL-SHAL-1C	7/8/2025 3:15:00 PM	SE			1	X	X	X										
SL-DEEP-1E_2025-07-09	SL-DEEP-1E	7/9/2025 8:35:00 AM	SE			1	X	X	X										

Relinquished by:	Bradley Rasmussen	**Date:**	7/9/2025 1:24:00 PM
Additional Comments	Sample mass is priority. Samples with insufficient mass should be combined. If there is insufficient sample mass from traps for individual trap chemistry those samples with inadequate mass should be combined with others from the same station to create 1 sample for chemistry. The other samples that have enough mass will be run as-is, after sample weight has been measured. Please make note if samples are combined in the data provided. Note from Rick Hawthorne: "We'll likely do the same as last year, with the caveat of the addition of TOC. The reporting of the metals and TOC would fall under special request again. On the report, we'll highlight the deviation denoting that the reportables were from the leftover sediment/filters from the Sediment Trap analysis method. I can communicate with BIM how we proceed once they arrive. If it is anything like last year we reported the metallics on a separate file entirely once the Traps were done as a special handling and reporting considerations."		
Initial Shipment Reception (lab use only)		**Final Shipment Reception** (lab use only)	

Received by:		**Received by:**	
Date/Time:		**Date/Time:**	15 AUG 2019

Particle Size Analysis Report

Sample Identification

Company: **Baffinlands Iron Mines Corp.**

PO#:

Sample ID: **BD-DEEP-1**

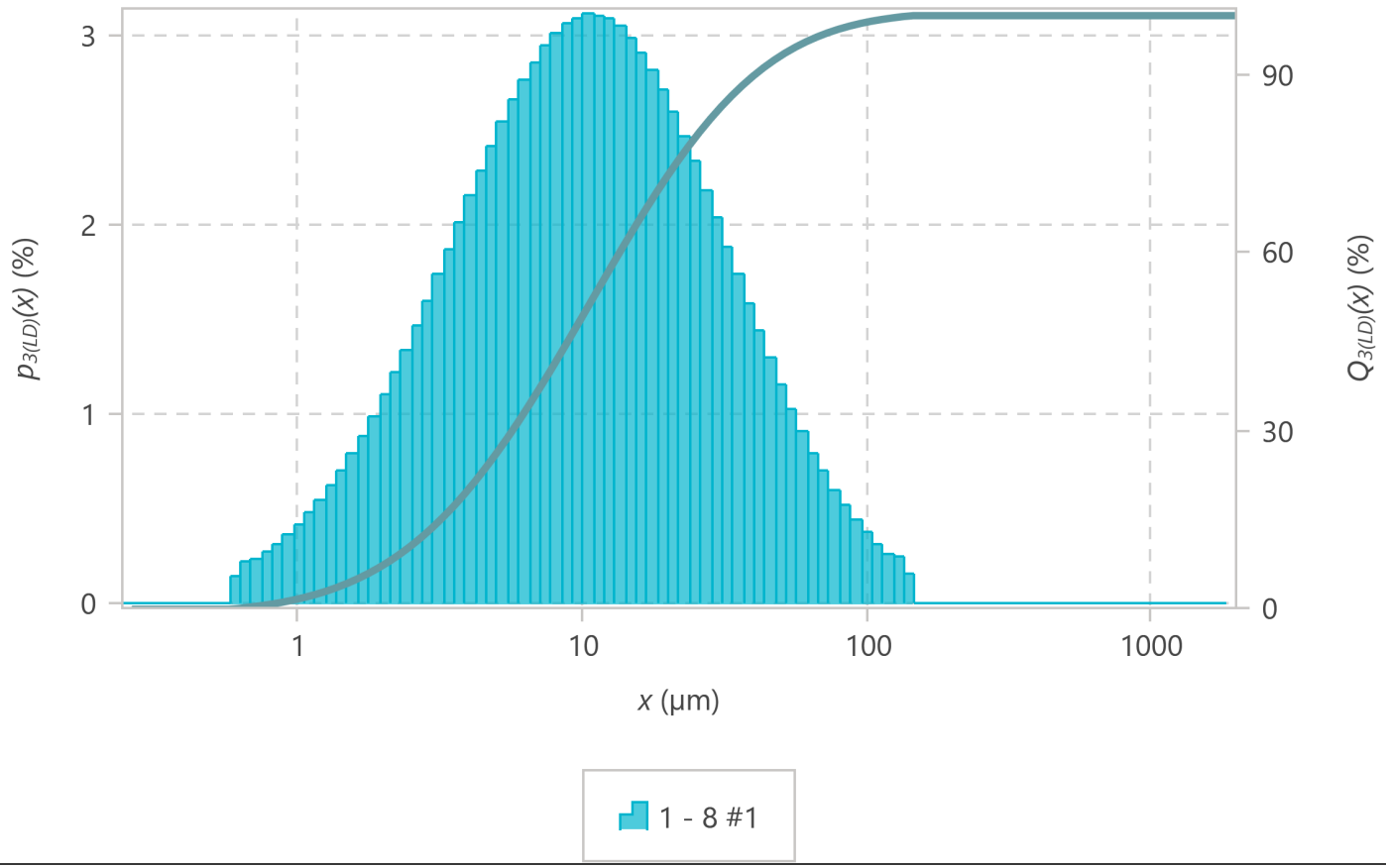
Method

Refractive Index red	1.55
Absorption Coefficient red	
Refractive Index blue	1.55
Absorption Coefficient blue	
Transparency	Transparent
Shape	Irregular
Fluid name	Water
Fluid refractive index	1.33

%Percentile

20 %	4.01 µm
50 %	10.34 µm
80 %	25.81 µm

Measurement Graph



Summary

Mean volume diameter ($M_{4,3}$)	17.37 µm
Mean area diameter ($M_{3,2}$)	5.72 µm
Mean number diameter ($M_{1,0}$)	1.25 µm

%Cumulative Passing

125 µm	100%
30 µm	84%
20 µm	73%
16 µm	65%
12 µm	55%
9 µm	45%
7 µm	36%
5 µm	26%
3 µm	14%
1 µm	2%

Results apply to samples as received. All sampling is completed by the cllient.

Signature

Particle Size Analysis Report

Sample Identification

Company: **Baffinlands Iron Mines Corp.**

PO#:

Sample ID: **BD-DEEP-2**

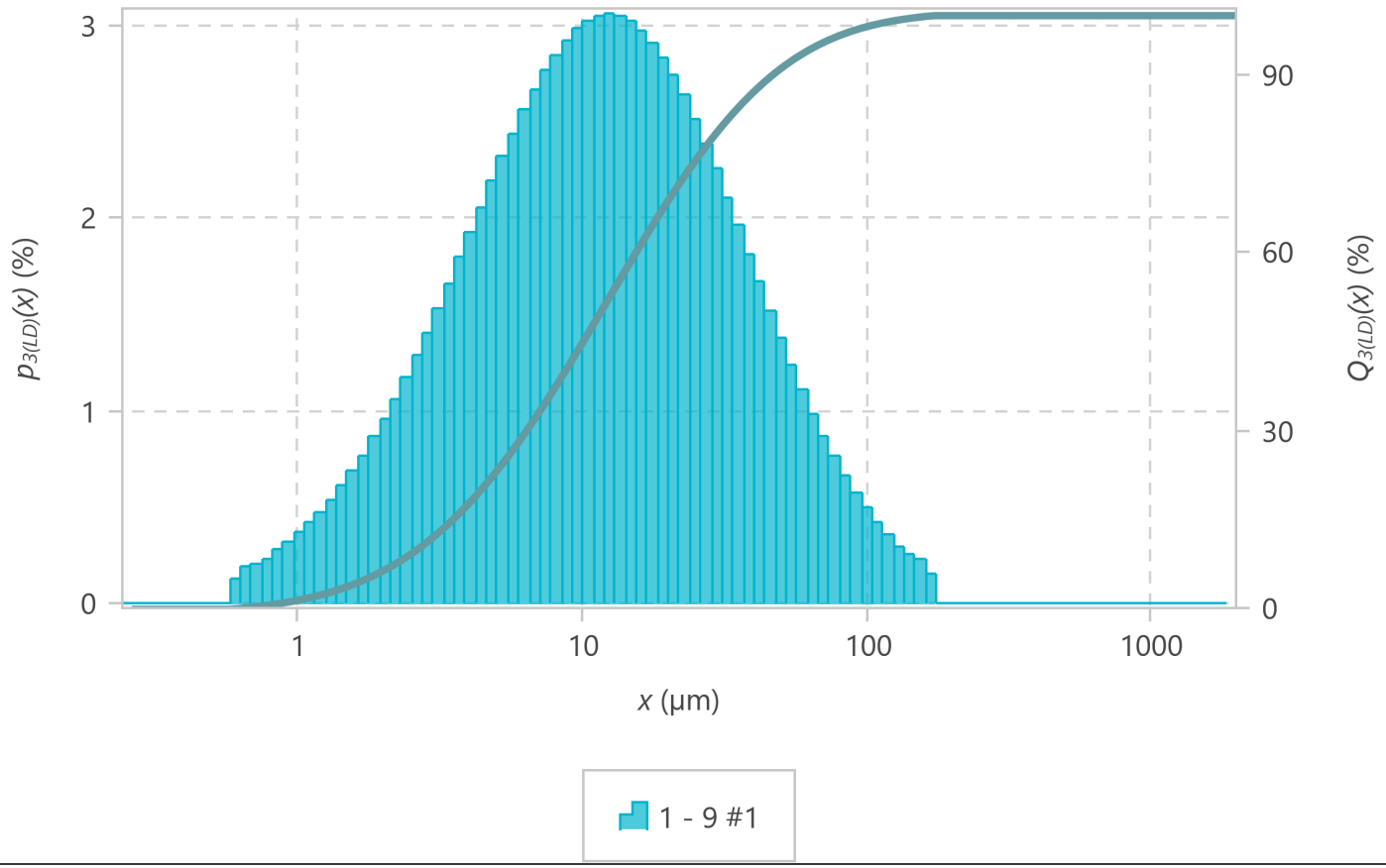
Method

Refractive Index red	1.55
Absorption Coefficient red	
Refractive Index blue	1.55
Absorption Coefficient blue	
Transparency	Transparent
Shape	Irregular
Fluid name	Water
Fluid refractive index	1.33

%Percentile

20 %	4.46 µm
50 %	11.76 µm
80 %	29.74 µm

Measurement Graph



Summary

Mean volume diameter ($M_{4,3}$)	20.01 µm
Mean area diameter ($M_{3,2}$)	6.28 µm
Mean number diameter ($M_{1,0}$)	1.25 µm

%Cumulative Passing

125 µm	99%
30 µm	80%
20 µm	68%
16 µm	61%
12 µm	51%
9 µm	41%
7 µm	33%
5 µm	23%
3 µm	12%
1 µm	1%

Results apply to samples as received. All sampling is completed by the cllient.

Signature

Particle Size Analysis Report

Sample Identification

Company: **Baffinlands Iron Mines Corp.**

PO#: G#2025-2013

Sample ID: **BD-SHAL-1**

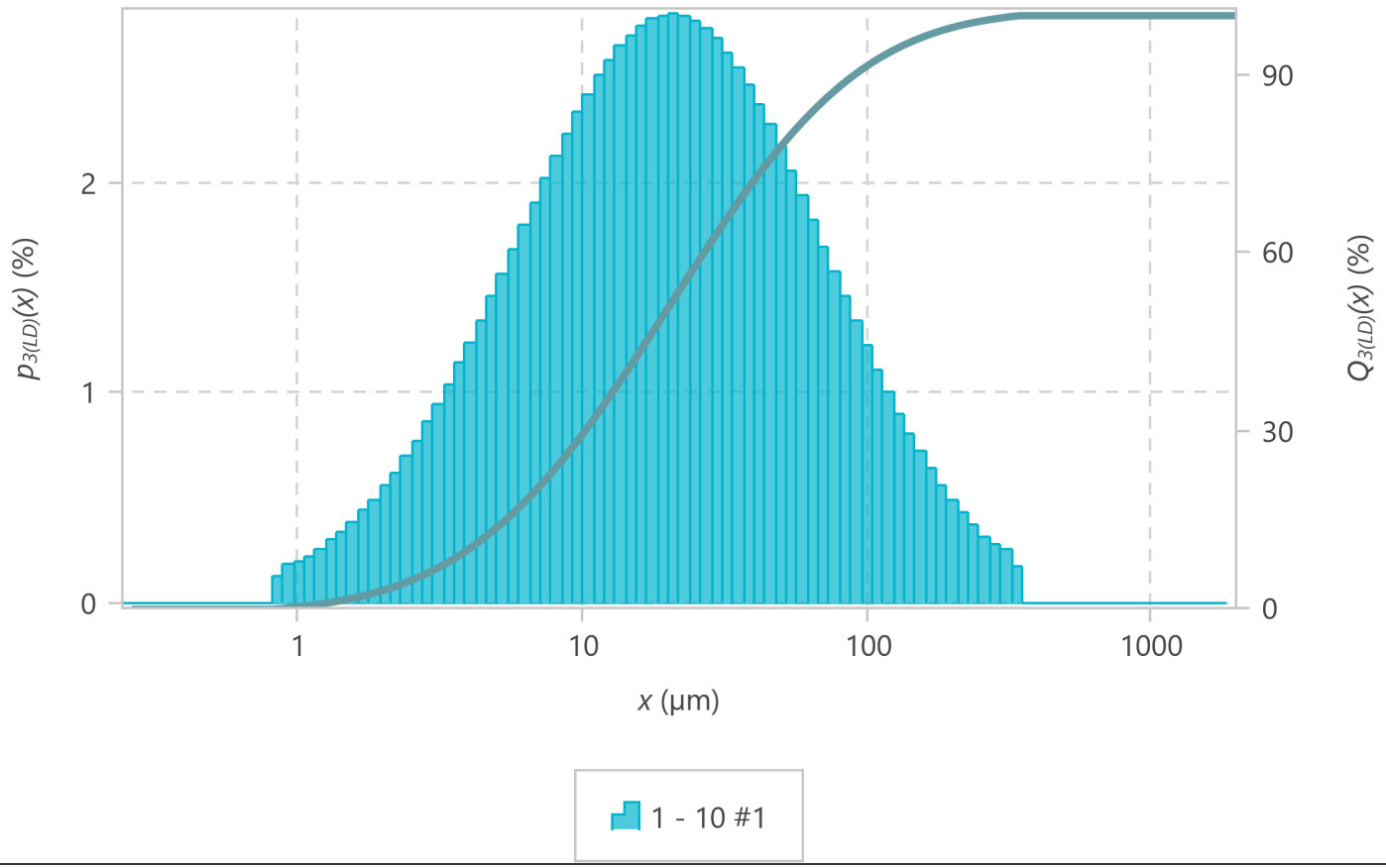
Method

Refractive Index red	1.55
Absorption Coefficient red	
Refractive Index blue	1.55
Absorption Coefficient blue	
Transparency	Transparent
Shape	Irregular
Fluid name	Water
Fluid refractive index	1.33

%Percentile

20 %	6.95 µm
50 %	19.84 µm
80 %	54.94 µm

Measurement Graph



Summary

Mean volume diameter ($M_{4,3}$)	37.31 µm
Mean area diameter ($M_{3,2}$)	9.72 µm
Mean number diameter ($M_{1,0}$)	1.74 µm

%Cumulative Passing

250 µm	99%
65 µm	84%
45 µm	75%
30 µm	63%
20 µm	50%
15 µm	41%
12 µm	34%
8 µm	23%
5 µm	13%
1.2 µm	1%

Results apply to samples as received. All sampling is completed by the cllient.

Signature

Particle Size Analysis Report

Sample Identification

Company: **Baffinlands Iron Mines Corp.**

PO#: G#2025-2013

Sample ID: **BD-SHAL-2**

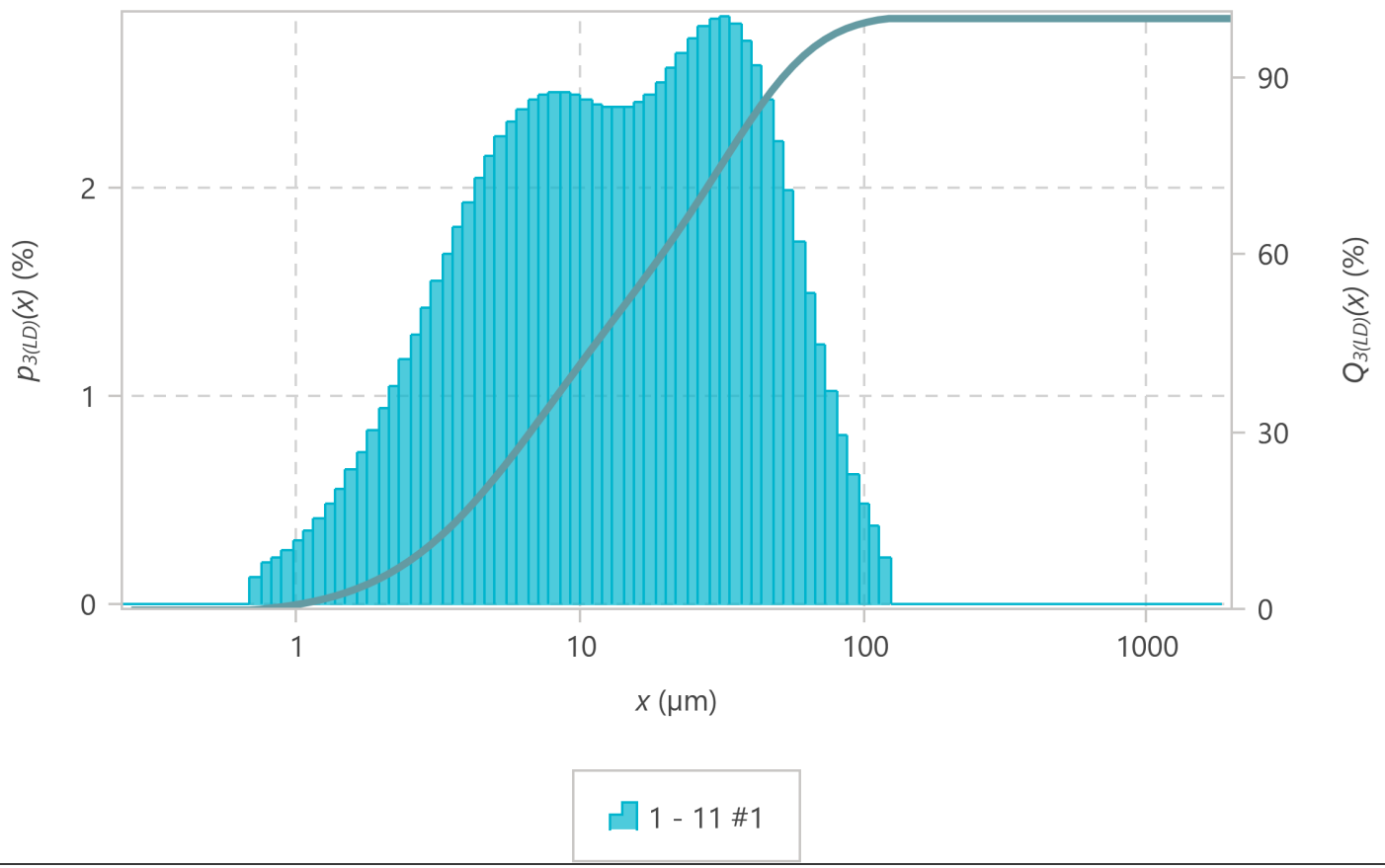
Method

Refractive Index red	1.55
Absorption Coefficient red	
Refractive Index blue	1.55
Absorption Coefficient blue	
Transparency	Transparent
Shape	Irregular
Fluid name	Water
Fluid refractive index	1.33

%Percentile

20 %	4.61 µm
50 %	13.74 µm
80 %	36.97 µm

Measurement Graph



Summary

Mean volume diameter ($M_{4,3}$)	21.8 µm
Mean area diameter ($M_{3,2}$)	6.93 µm
Mean number diameter ($M_{1,0}$)	1.5 µm

%Cumulative Passing

150 µm	100%
45 µm	86%
30 µm	73%
20 µm	61%
15 µm	52%
12 µm	46%
8 µm	35%
5 µm	22%
3 µm	11%
1 µm	1%

Results apply to samples as received. All sampling is completed by the cllient.

Signature

Particle Size Analysis Report

Sample Identification

Company: **Baffinlands Iron Mines Corp.**

PO#: G#2025-2013

Sample ID: **BD-SHAL-3**

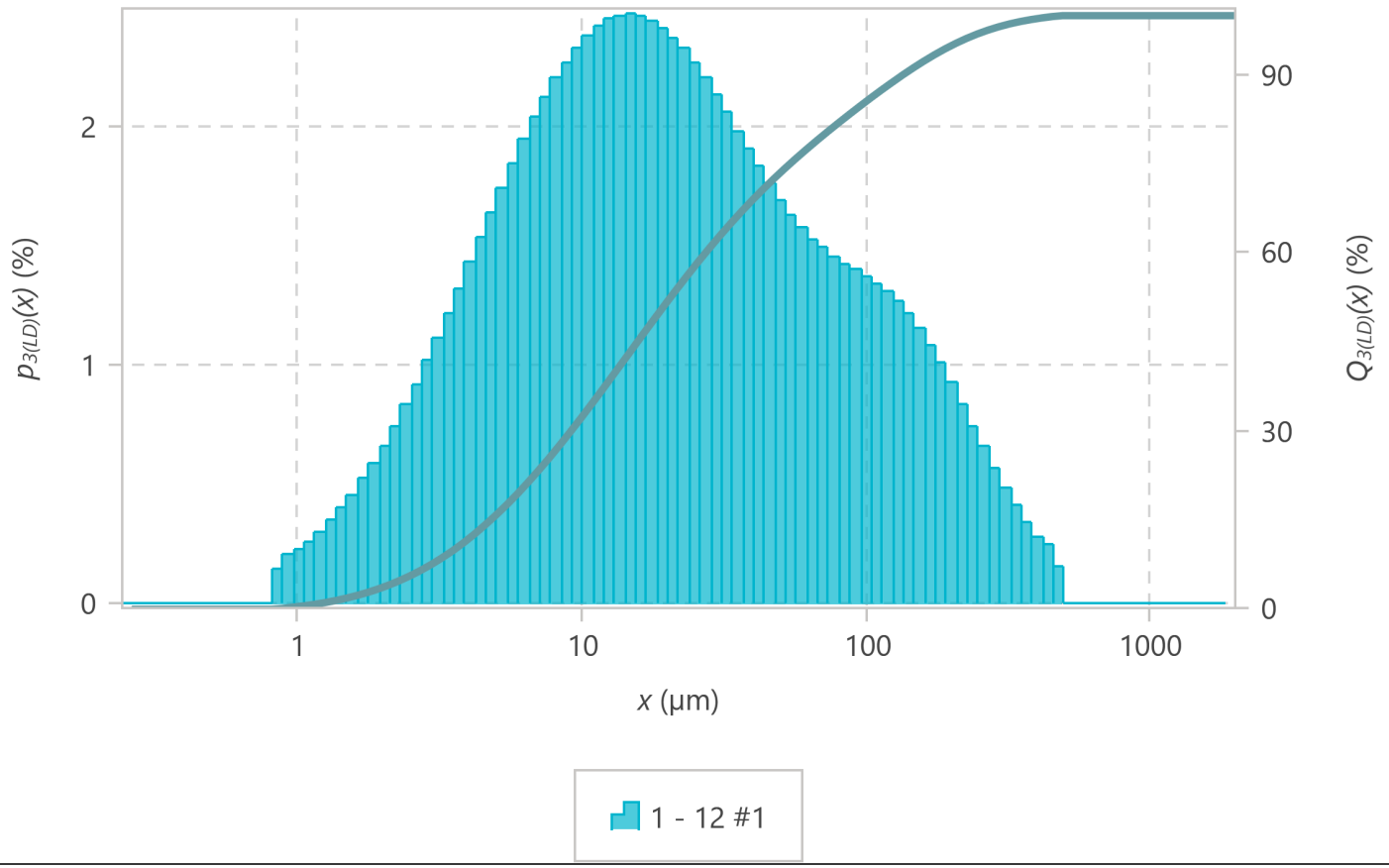
Method

Refractive Index red	1.55
Absorption Coefficient red	
Refractive Index blue	1.55
Absorption Coefficient blue	
Transparency	Transparent
Shape	Irregular
Fluid name	Water
Fluid refractive index	1.33

%Percentile

20 %	6.17 µm
50 %	18.96 µm
80 %	72.21 µm

Measurement Graph



Summary

Mean volume diameter ($M_{4,3}$)	48.21 µm
Mean area diameter ($M_{3,2}$)	9.09 µm
Mean number diameter ($M_{1,0}$)	1.73 µm

%Cumulative Passing

300 µm	98%
125 µm	89%
65 µm	78%
30 µm	62%
20 µm	51%
15 µm	43%
10 µm	32%
7 µm	23%
5 µm	16%
1.2 µm	1%

Results apply to samples as received. All sampling is completed by the cllient.

Signature

Particle Size Analysis Report

Sample Identification

Company: **Baffinlands Iron Mines Corp.**

PO#: G#2025-2013

Sample ID: **BD-SHAL-4**

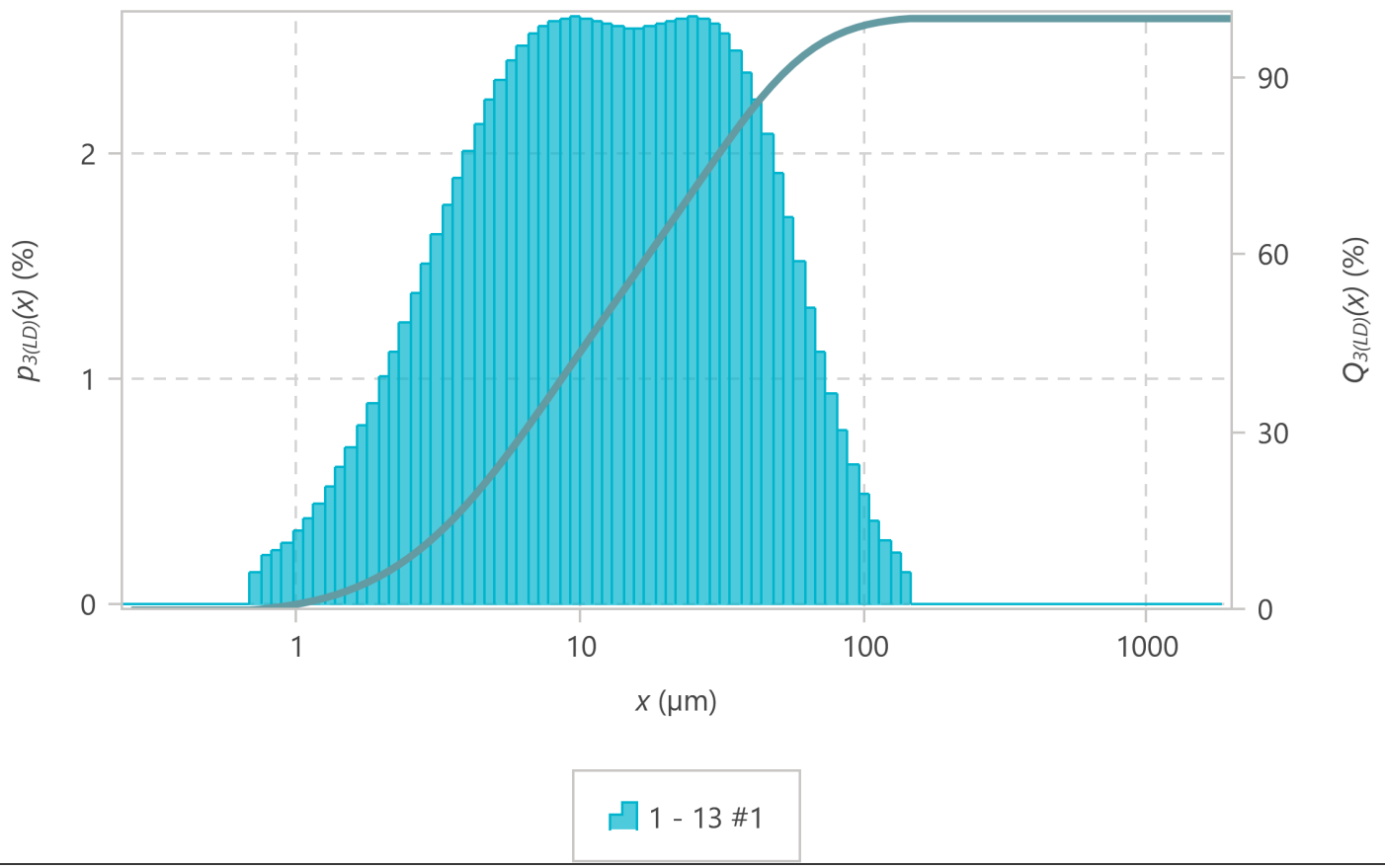
Method

Refractive Index red	1.55
Absorption Coefficient red	
Refractive Index blue	1.55
Absorption Coefficient blue	
Transparency	Transparent
Shape	Irregular
Fluid name	Water
Fluid refractive index	1.33

%Percentile

20 %	4.42 µm
50 %	12.56 µm
80 %	34.55 µm

Measurement Graph



Summary

Mean volume diameter ($M_{4,3}$)	21 µm
Mean area diameter ($M_{3,2}$)	6.62 µm
Mean number diameter ($M_{1,0}$)	1.5 µm

%Cumulative Passing

125 µm	100%
40 µm	84%
30 µm	76%
20 µm	64%
15 µm	55%
10 µm	43%
7 µm	33%
5 µm	23%
3 µm	12%
1 µm	1%

Results apply to samples as received. All sampling is completed by the cllient.

Signature

Particle Size Analysis Report

Sample Identification

Company: **Baffinlands Iron Mines Corp.**

PO#: G#2025-2013

Sample ID: **BD-SHAL-5**

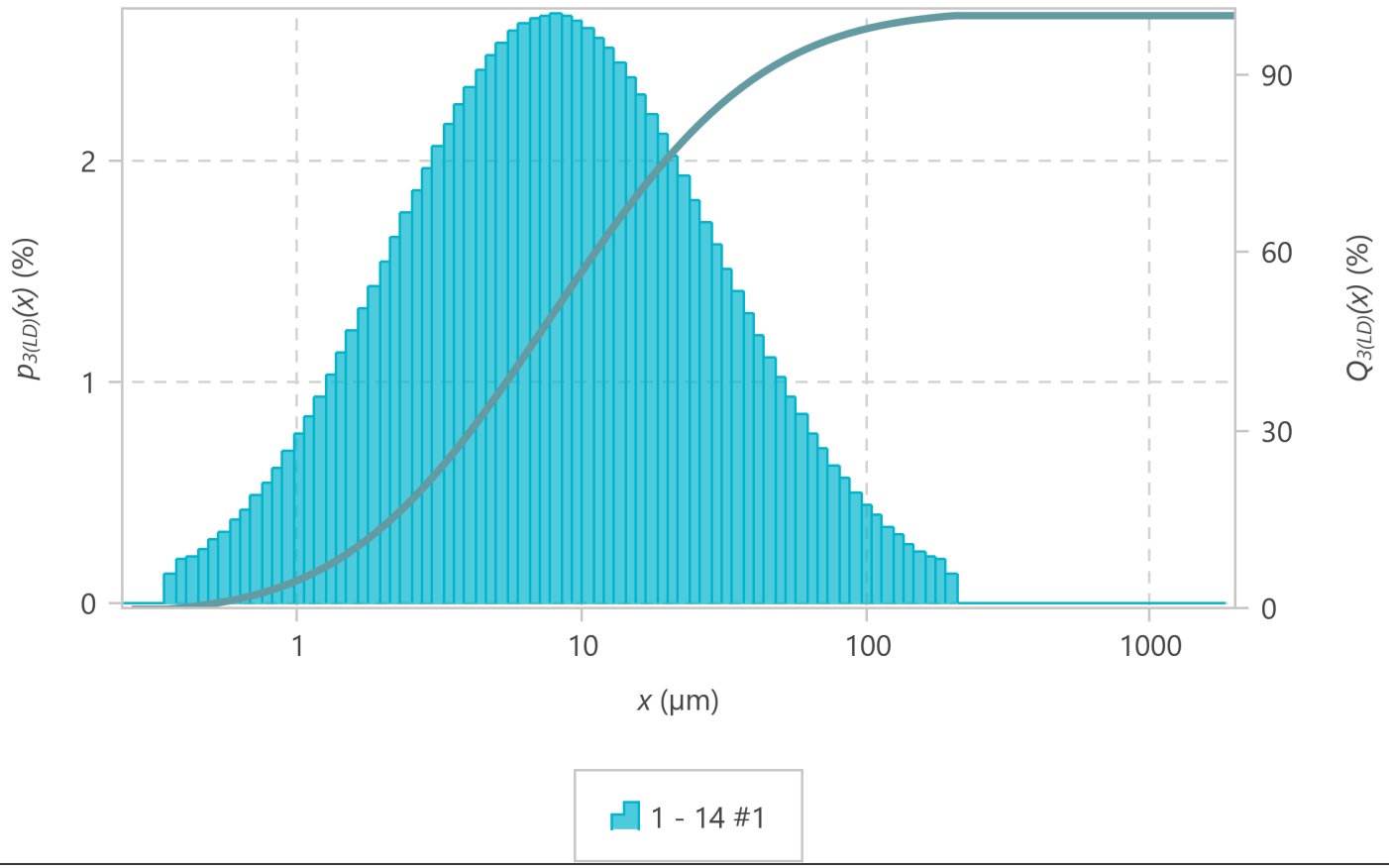
Method

Refractive Index red	1.55
Absorption Coefficient red	
Refractive Index blue	1.55
Absorption Coefficient blue	
Transparency	Transparent
Shape	Irregular
Fluid name	Water
Fluid refractive index	1.33

%Percentile

20 %	2.75 µm
50 %	8.09 µm
80 %	24.21 µm

Measurement Graph



Summary

Mean volume diameter ($M_{4,3}$)	17.3 µm
Mean area diameter ($M_{3,2}$)	3.92 µm
Mean number diameter ($M_{1,0}$)	0.73 µm

%Cumulative Passing

125 µm	99%
30 µm	84%
20 µm	76%
15 µm	68%
10 µm	56%
7 µm	46%
5 µm	35%
3 µm	22%
2 µm	14%
0.5 µm	1%

Results apply to samples as received. All sampling is completed by the cllient.

Signature

Particle Size Analysis Report

Sample Identification

Company: **Baffinland Iron Mines Corp.**

PO#: Group# 2025-3523

Sample ID: **Comp1____(BD-SHAL-1 + SHAL-2)**

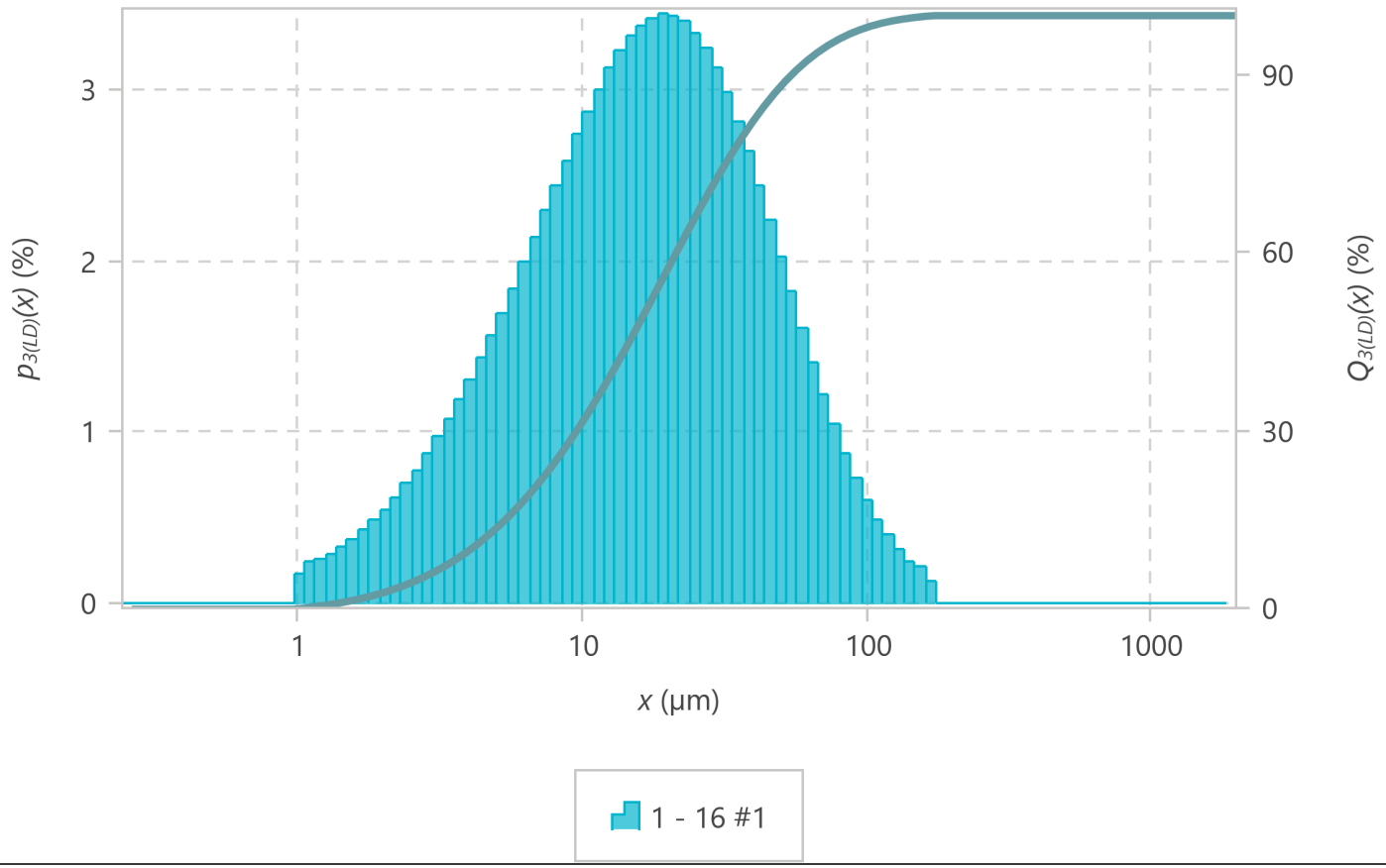
Method

Refractive Index red	1.55
Absorption Coefficient red	
Refractive Index blue	1.55
Absorption Coefficient blue	
Transparency	Transparent
Shape	Irregular
Fluid name	Water
Fluid refractive index	1.33

%Percentile

20 %	6.78 µm
50 %	16.83 µm
80 %	37.55 µm

Measurement Graph



Summary

Mean volume diameter ($M_{4,3}$)	24.63 µm
Mean area diameter ($M_{3,2}$)	9.42 µm
Mean number diameter ($M_{1,0}$)	2.06 µm

%Cumulative Passing

125 µm	99%
45 µm	85%
35 µm	78%
25 µm	66%
20 µm	57%
15 µm	46%
10 µm	31%
7 µm	21%
5 µm	13%
1.5 µm	1%

Results apply to samples as received. All sampling is completed by the cllient.

Signature

Particle Size Analysis Report

Sample Identification

Company: **Baffinland Iron Mines Corp.**

PO#: Group# 2025-3523

Sample ID: **Comp2_____(BD-SHAL-3 + SHAL-4 + SHAL-5)**

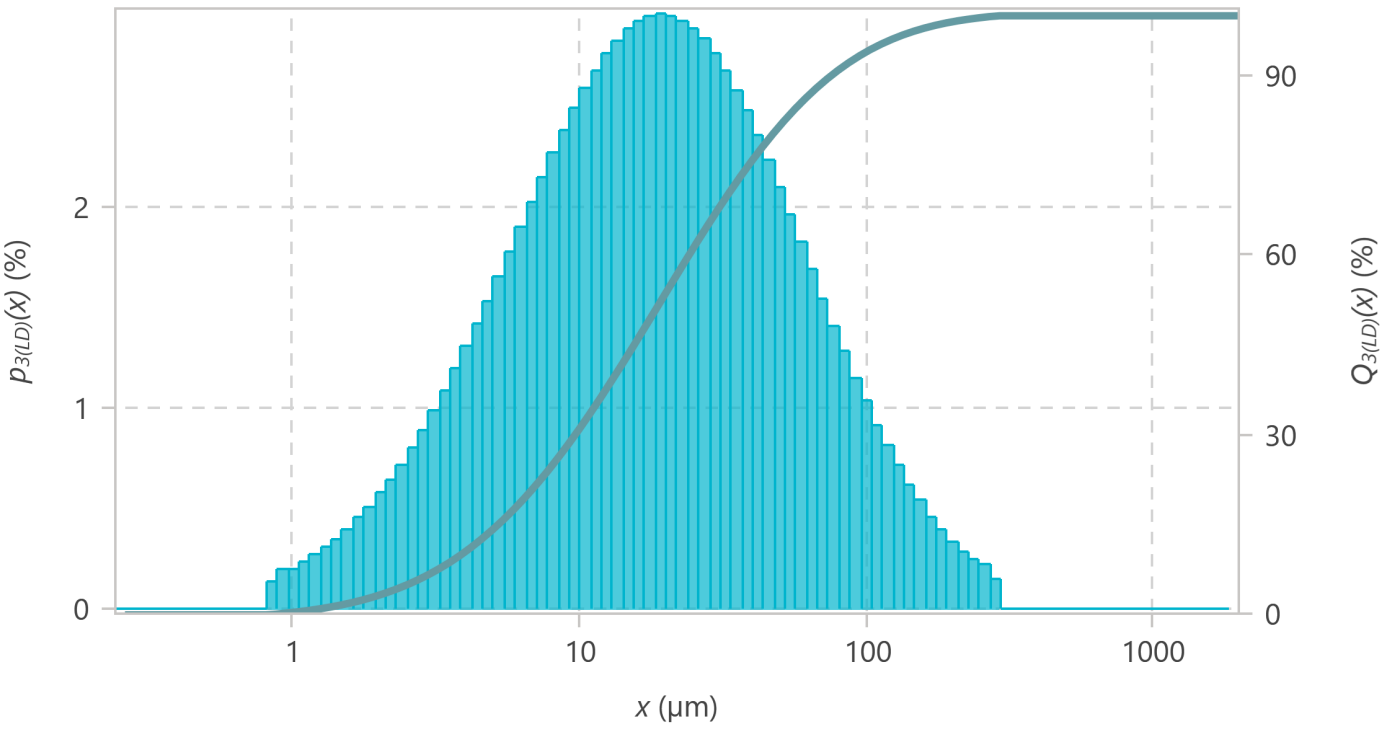
Method

Refractive Index red	1.55
Absorption Coefficient red	
Refractive Index blue	1.55
Absorption Coefficient blue	
Transparency	Transparent
Shape	Irregular
Fluid name	Water
Fluid refractive index	1.33

%Percentile

20 %	6.68 µm
50 %	18.2 µm
80 %	47.4 µm

Measurement Graph



Summary

Mean volume diameter ($M_{4,3}$)	31.99 µm
Mean area diameter ($M_{3,2}$)	9.33 µm
Mean number diameter ($M_{1,0}$)	1.75 µm

%Cumulative Passing

160 µm	98%
50 µm	81%
35 µm	72%
25 µm	61%
20 µm	53%
15 µm	43%
10 µm	31%
7 µm	21%
5 µm	14%
1.5 µm	2%

Results apply to samples as received. All sampling is completed by the cllient.

Signature

Particle Size Analysis Report

Sample Identification

Company: **Baffinland Iron Mines Corp.**

PO#: Group# 2025-3523

Sample ID: **Comp3____(BD-DEEP 1+2+3)**

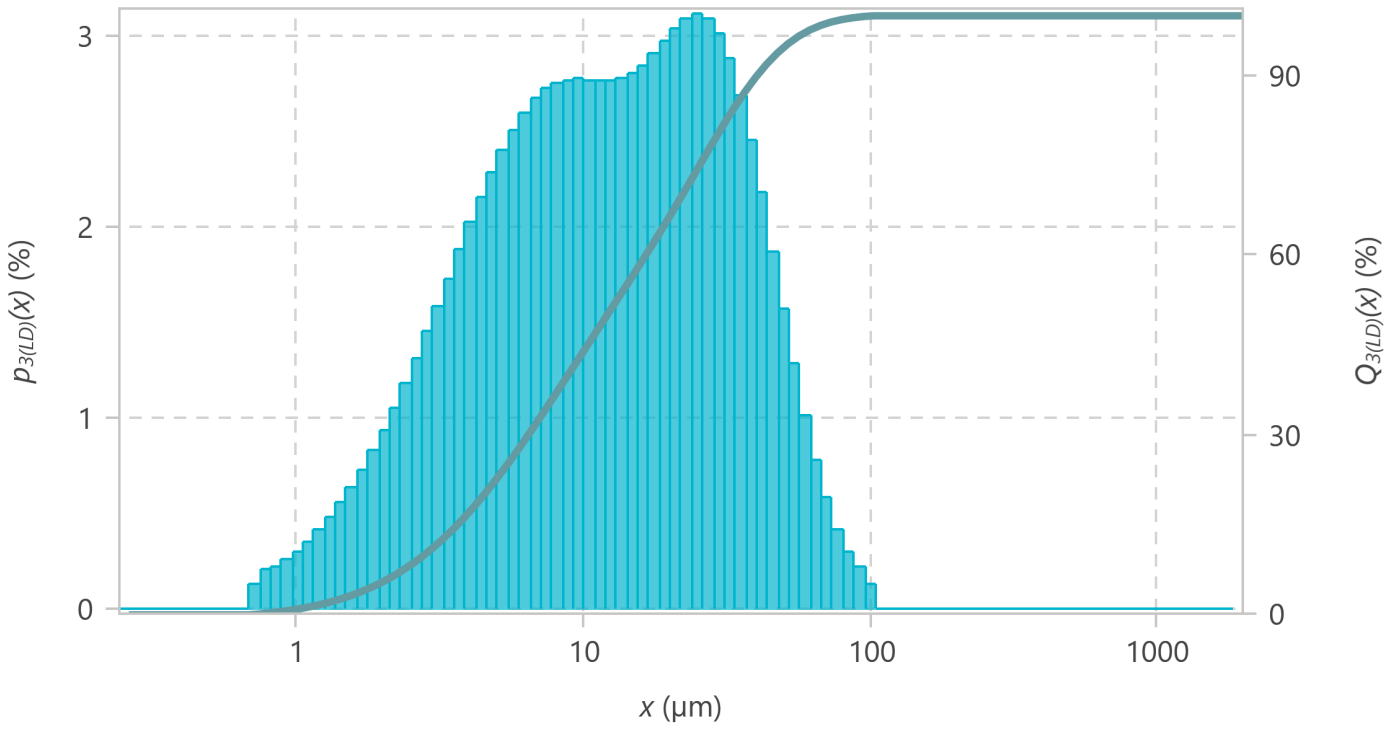
Method

Refractive Index red	1.55
Absorption Coefficient red	
Refractive Index blue	1.55
Absorption Coefficient blue	
Transparency	Transparent
Shape	Irregular
Fluid name	Water
Fluid refractive index	1.33

%Percentile

20 %	4.56 µm
50 %	12.27 µm
80 %	29.63 µm

Measurement Graph



Summary

Mean volume diameter ($M_{4,3}$)	17.9 µm
Mean area diameter ($M_{3,2}$)	6.68 µm
Mean number diameter ($M_{1,0}$)	1.52 µm

%Cumulative Passing

70 µm	99%
35 µm	86%
25 µm	74%
20 µm	66%
15 µm	56%
10 µm	43%
7 µm	32%
5 µm	22%
3 µm	11%
1 µm	1%

Results apply to samples as received. All sampling is completed by the cllient.

Signature

Baffinland Iron Mines Corp.
Attention: Environment Lab Results
PO #/Project:
Samples: 7

SRC Geoanalytical Laboratories
2901 Cleveland Avenue, Saskatoon, Saskatchewan, S7K 8A9
Phone: (306) 933-8118 Email: geolab@src.sk.ca

Report No: G-2025-2013

Date of Report: Sep 10, 2025

Laser Diffraction

Column Header Details

D50 in (D50)

Sample Number	D50
BD-DEEP-1	10.34
BD-DEEP-2	11.76
BD-SHAL-1	19.84
BD-SHAL-2	13.74
BD-SHAL-3	18.96
BD-SHAL-4	12.56
BD-SHAL-5	8.09

PSA by Microtrac Laser Diffraction Analyzer.
Results apply to samples as received. All sampling is completed by cllient.

SRC Geoanalytical Laboratories
2901 Cleveland Avenue, Saskatoon, Saskatchewan, S7K 8A9
Phone: (306) 933-8118 Email: geolab@src.sk.ca

Baffinland Iron Mines Corp.
Attention: Environment Lab Results
Dispatch:
PO #/Project:
Samples: 7

				D50 Laser Diffraction
Group #	Description	Date	Sample Type	
G-2025-2013	BD-DEEP-1	08-06-2025	Other	10.34
G-2025-2013	BD-DEEP-2	08-06-2025	Other	11.76
G-2025-2013	BD-SHAL-1	08-06-2025	Other	19.84
G-2025-2013	BD-SHAL-2	08-06-2025	Other	13.74
G-2025-2013	BD-SHAL-3	08-06-2025	Other	18.96
G-2025-2013	BD-SHAL-4	08-06-2025	Other	12.56
G-2025-2013	BD-SHAL-5	08-06-2025	Other	8.09

SASKATCHEWAN RESEARCH COUNCIL
Geoanalytical Laboratories
2901 Cleveland Avenue, Saskatoon, SK Canada S7K 8A9
T: 306-933-8118 F: 306-933-5656
E: geolab@src.sk.ca
www.src.sk.ca/geoanalytical

Report No: G-2025-2013

September 10, 2025

Baffinland Iron Mines Corp.
2275 Upper Middle Road East
Suite 300
Oakville, ONT L6H 0C3
Attn: Environment Lab Results

This document constitutes the **final official test report.** Liability for the SRC Geoanalytical Laboratories', if any, will be limited to the cost of analysis for samples in this test report. The results contained in this test report relate only to the items tested. It is the customer's responsibility to ensure that all interpretation of analysis is done using the data from this report.

The customer will not use the name of the Saskatchewan Research Council in connection with the sale, offer, advertisement or the promotion of any article, product, or company without the prior written consent of the SRC.

Results Reviewed and Approved by: _____
Herman Coceancigh
ICP Supervisor

Baffinland Iron Mines Corp.
Attention: Environment Lab Results
PO #/Project:
Samples: 5

SRC Geoanalytical Laboratories
2901 Cleveland Avenue, Saskatoon, Saskatchewan, S7K 8A9
Phone: (306) 933-8118 Email: geolab@src.sk.ca

Report No: G-2025-3048

Date of Report: Oct 21, 2025

DPulp

Column Header Details

Density in g/cc (Density)

Sample Number	Density g/cc
QQ	2.60
BD-SHAL-Comp- 1 2	2.82
BD-SHAL-Comp- 3 4 5	3.08
BD-DEEP-Comp- 1 2 3	3.09
BD-DEEP-Comp- 1 2 3 R	3.09

Rock Density by Pycnometer Method.
The standard used is QQ.
Results apply to samples as received. All sampling is completed by the client.

Baffinland Iron Mines Corp.
Attention: Environment Lab Results
PO #/Project:
Samples: 4

SRC Geoanalytical Laboratories
2901 Cleveland Avenue, Saskatoon, Saskatchewan, S7K 8A9
Phone: (306) 933-8118 Email: geolab@src.sk.ca

Report No: G-2025-3523

Date of Report: Jan 16, 2026

DPulp

Column Header Details

Density in g/cc (Density)

Sample Number	Density g/cc
QQ	2.63
Composite 1	2.73
Composite 2	1.73
Composite 3	2.76

Rock Density by Pycnometer Method.
The standard used is QQ.
Results apply to samples as received. All sampling is completed by the client.

Note - Due to sample size:
Composite 1 --> BD-SHAL-1, BD-SHAL-2
Composite 2 --> BD-SHAL-3, BD-SHAL-4, and BD-SHAL-5
Composite 3 --> BD-DEEP-1, BD-DEEP-2, BD-DEEP-3
as per email discussion with Jaime Caplette.

Baffinland Iron Mines Corp.
Attention: Environment Lab Results
PO #/Project:
Samples: 5

SRC Geoanalytical Laboratories
2901 Cleveland Avenue, Saskatoon, Saskatchewan, S7K 8A9
Phone: (306) 933-8118 Email: geolab@src.sk.ca

Report No: G-2025-3523

Date of Report: Jan 16, 2026

Laser Diffraction

Column Header Details

D50 in (D50)

Sample Number	D50
Glass_1	58.56
Glass_2	669.14
Composite 1	16.83
Composite 2	18.20
Composite 3	12.27

PSA by Microtrac Laser Diffraction Analyzer.
Results apply to samples as received. All sampling is completed by client.

Note - Due to sample size:
Composite 1 --> BD-SHAL-1, BD-SHAL-2
Composite 2 --> BD-SHAL-3, BD-SHAL-4, and BD-SHAL-5
Composite 3 --> BD-DEEP-1, BD-DEEP-2, BD-DEEP-3
as per email discussion with Jaime Caplette.

SASKATCHEWAN RESEARCH COUNCIL
Geoanalytical Laboratories
2901 Cleveland Avenue, Saskatoon, SK Canada S7K 8A9
T: 306-933-8118 F: 306-933-5656
E: geolab@src.sk.ca
www.src.sk.ca/geoanalytical

Report No: G-2025-3523

January 16, 2026

Baffinland Iron Mines Corp.
2275 Upper Middle Road East
Suite 300
Oakville, ONT L6H 0C3
Attn: Environment Lab Results

This document constitutes the **final official test report.** Liability for the SRC Geoanalytical Laboratories', if any, will be limited to the cost of analysis for samples in this test report. The results contained in this test report relate only to the items tested. It is the customer's responsibility to ensure that all interpretation of analysis is done using the data from this report.

The customer will not use the name of the Saskatchewan Research Council in connection with the sale, offer, advertisement or the promotion of any article, product, or company without the prior written consent of the SRC.

Results Reviewed and Approved by: _____
Herman Coceancigh
ICP Supervisor

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	:	**WT2525447**			
Client	:	**Baffinland Iron Mines Corporation**	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Environmental Lab Results	Account Manager	:	Rick Hawthorne
Address	:	360 Oakville Place Dr Suite 300 Oakville Ontario Canada L6H 6K8	Address	:	60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	----	Telephone	:	+1 519 886 6910
Project	:	SEDIMENT TRAPS	Date Samples Received	:	15-Aug-2025 09:00
PO	:	4500156571	Date Analysis Commenced	:	17-Dec-2025
C-O-C number	:	----	Issue Date	:	31-Dec-2025 12:10
Sampler	:	AG/JM/ET			
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	16			
No. of samples analysed	:	16			

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
- Guideline Comparison

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*
Greg Pokocky	Manager - Inorganics	Metals, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Inorganics, Waterloo, Ontario
Travis Peel	Laboratory Analyst	Centralized Prep, Waterloo, Ontario

No Breaches Found

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.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key: LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
%	percent
mg/kg	milligrams per kilogram

>: greater than.
<: less than.

Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Qualifiers

Qualifier	Description
DLIS	Detection Limit Adjusted due to insufficient sample.

Analytical Results Evaluation

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-SHAL-2C_2025-07-05 ----	SL-SHAL-2E_2025-07-05 ----	SL-SHAL-2A_2025-07-05 ----	SL-DEEP-1C_2025-07-05 ----	SL-SHAL-1D_2025-07-05 ----	SL-SHAL-1B_2025-07-05 ----	SL-SHAL-1A_2025-07-06 ----
				Client sampling date / time	05-Jul-2025 10:10	05-Jul-2025 10:45	05-Jul-2025 11:20	05-Jul-2025 13:55	05-Jul-2025 15:20	05-Jul-2025 16:05	06-Jul-2025 14:20
				Sub-Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
					WT2525447-001	WT2525447-002	WT2525447-003	WT2525447-004	WT2525447-005	WT2525447-006	WT2525447-007
					Result	Result	Result	Result	Result	Result	Result
Sample Preparation											
Dummy analyte	----	EP357/WT	-		Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised
Metals											
Aluminum	7429-90-5	E440/WT	mg/kg		32700	29300	27700	23800	28800	34600	33400
Antimony	7440-36-0	E440/WT	mg/kg		0.26	0.39	0.20	0.21	0.49	0.26	0.19
Arsenic	7440-38-2	E440/WT	mg/kg		6.57	6.99	5.07	3.91	5.43	6.13	5.67
Barium	7440-39-3	E440/WT	mg/kg		171	158	140	121	167	188	171
Beryllium	7440-41-7	E440/WT	mg/kg		1.44	1.22	1.26	1.06	1.18	1.60	1.34
Bismuth	7440-69-9	E440/WT	mg/kg		0.87	0.69	0.64	0.65	0.68	0.86	0.77
Boron	7440-42-8	E440/WT	mg/kg		140	352	149	258	397	458	295
Cadmium	7440-43-9	E440/WT	mg/kg		0.768	0.635	0.647	0.580	0.572	0.837	0.884
Calcium	7440-70-2	E440/WT	mg/kg		5030	6370	5440	6000	7320	7780	6340
Chromium	7440-47-3	E440/WT	mg/kg		76.5	142	72.4	54.4	70.2	82.6	76.7
Cobalt	7440-48-4	E440/WT	mg/kg		25.8	22.5	20.4	16.3	22.3	25.5	23.9
Copper	7440-50-8	E440/WT	mg/kg		51.3	63.2	48.7	38.6	47.5	57.3	54.1
Iron	7439-89-6	E440/WT	mg/kg		152000	134000	102000	74700	176000	116000	105000
Lead	7439-92-1	E440/WT	mg/kg		21.3	22.6	19.8	18.9	19.6	25.1	24.0
Lithium	7439-93-2	E440/WT	mg/kg		42.9	37.2	36.2	31.1	36.0	47.2	41.1
Magnesium	7439-95-4	E440/WT	mg/kg		24400	22700	20100	18600	21800	26500	24500
Manganese	7439-96-5	E440/WT	mg/kg		1840	1930	1780	1490	1970	2430	2250

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-SHAL-2C_2025-07-05 ----	SL-SHAL-2E_2025-07-05 ----	SL-SHAL-2A_2025-07-05 ----	SL-DEEP-1C_2025-07-05 ----	SL-SHAL-1D_2025-07-05 ----	SL-SHAL-1B_2025-07-05 ----	SL-SHAL-1A_2025-07-06 ----
				Client sampling date / time	05-Jul-2025 10:10	05-Jul-2025 10:45	05-Jul-2025 11:20	05-Jul-2025 13:55	05-Jul-2025 15:20	05-Jul-2025 16:05	06-Jul-2025 14:20
				Sub-Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
					WT2525447-001	WT2525447-002	WT2525447-003	WT2525447-004	WT2525447-005	WT2525447-006	WT2525447-007
					Result	Result	Result	Result	Result	Result	Result
Metals											
Mercury	7439-97-6	E510/WT	mg/kg		0.0150	0.0144	0.0149	0.0102	0.0144	0.0288	0.0256
Molybdenum	7439-98-7	E440/WT	mg/kg		8.15	9.35	7.54	4.83	18.4	8.71	7.33
Nickel	7440-02-0	E440/WT	mg/kg		77.6	71.5	67.9	50.1	67.0	77.7	75.4
Phosphorus	7723-14-0	E440/WT	mg/kg		642	589	610	458	585	627	602
Potassium	7440-09-7	E440/WT	mg/kg		7670	6630	6380	6140	6330	7830	7450
Selenium	7782-49-2	E440/WT	mg/kg		0.57	0.49	0.68	0.32	0.57	0.67	0.55
Silver	7440-22-4	E440/WT	mg/kg		0.21	0.23	0.19	0.20	0.20	0.25	0.24
Sodium	7440-23-5	E440/WT	mg/kg		279	313	290	240	264	323	296
Strontium	7440-24-6	E440/WT	mg/kg		13.4	19.6	14.7	14.9	21.5	24.0	18.9
Sulfur	7704-34-9	E440/WT	mg/kg		<1000	<1900 DLIS	1200	<1000	<1000	<1100 DLIS	<1000
Thallium	7440-28-0	E440/WT	mg/kg		0.445	0.406	0.396	0.317	0.374	0.479	0.453
Tin	7440-31-5	E440/WT	mg/kg		2.2	4.3	2.9	5.8	3.4	2.8	<2.0
Titanium	7440-32-6	E440/WT	mg/kg		1260	1300	1150	989	1150	1400	1310
Tungsten	7440-33-7	E440/WT	mg/kg		1.14	1.46	1.16	1.60	1.34	1.27	1.03
Uranium	7440-61-1	E440/WT	mg/kg		8.38	8.32	11.2	4.68	15.0	8.33	7.65
Vanadium	7440-62-2	E440/WT	mg/kg		50.8	48.6	46.9	38.0	44.0	54.3	51.7
Zinc	7440-66-6	E440/WT	mg/kg		145	471	131	122	837	137	131
Zirconium	7440-67-7	E440/WT	mg/kg		9.4	12.6	7.0	11.4	11.5	15.4	12.1
Aggregate Organics											
Carbon, total organic [TOC]	----	E357/WT	%		1.71	1.41	3.30	0.95	1.11	1.71	1.58

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-SHAL-2C_2025-07-05 ----	SL-SHAL-2E_2025-07-05 ----	SL-SHAL-2A_2025-07-05 ----	SL-DEEP-1C_2025-07-05 ----	SL-SHAL-1D_2025-07-05 ----	SL-SHAL-1B_2025-07-05 ----	SL-SHAL-1A_2025-07-06 ----
				Client sampling date / time	05-Jul-2025 10:10	05-Jul-2025 10:45	05-Jul-2025 11:20	05-Jul-2025 13:55	05-Jul-2025 15:20	05-Jul-2025 16:05	06-Jul-2025 14:20
				Sub-Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
					WT2525447-001	WT2525447-002	WT2525447-003	WT2525447-004	WT2525447-005	WT2525447-006	WT2525447-007
					Result	Result	Result	Result	Result	Result	Result
Aggregate Organics											
Organic matter	----	E357/WT	%		2.95	2.43	5.69	1.64	1.91	2.95	2.72

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

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-SHAL-2D_2025-07-07 ----	SL-SHAL-2B_2025-07-07 ----	SL-DEEP-1B_2025-07-07 ----	SL-DEEP-1A_2025-07-07 ----	SL-SHAL-1E_2025-07-08 ----	SL-DEEP-1D_2025-07-08 ----	SL-SHAL-1C_2025-07-08 ----
				Client sampling date / time	07-Jul-2025 11:40	07-Jul-2025 12:35	07-Jul-2025 13:15	07-Jul-2025 14:38	08-Jul-2025 10:30	08-Jul-2025 13:10	08-Jul-2025 15:15
				Sub-Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
					WT2525447-008	WT2525447-009	WT2525447-010	WT2525447-011	WT2525447-012	WT2525447-013	WT2525447-014
					Result	Result	Result	Result	Result	Result	Result
Sample Preparation											
Dummy analyte	----	EP357/WT	-		Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised
Metals											
Aluminum	7429-90-5	E440/WT	mg/kg		28400	28400	39300	39500	34900	38900	33600
Antimony	7440-36-0	E440/WT	mg/kg		0.21	0.19	0.32	0.18	0.23	0.22	0.31
Arsenic	7440-38-2	E440/WT	mg/kg		5.78	5.47	6.27	6.34	6.40	6.26	6.03
Barium	7440-39-3	E440/WT	mg/kg		157	152	218	217	190	222	178
Beryllium	7440-41-7	E440/WT	mg/kg		1.20	1.21	1.78	1.74	1.51	1.71	1.37
Bismuth	7440-69-9	E440/WT	mg/kg		0.69	0.71	1.04	1.04	0.88	1.09	0.77
Boron	7440-42-8	E440/WT	mg/kg		221	234	563	390	356	262	363
Cadmium	7440-43-9	E440/WT	mg/kg		0.876	0.904	0.950	0.914	0.819	1.01	0.628
Calcium	7440-70-2	E440/WT	mg/kg		5470	5820	8590	7120	7050	6280	7060

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-SHAL-2D_2025-07-07 ----	SL-SHAL-2B_2025-07-07 ----	SL-DEEP-1B_2025-07-07 ----	SL-DEEP-1A_2025-07-07 ----	SL-SHAL-1E_2025-07-08 ----	SL-DEEP-1D_2025-07-08 ----	SL-SHAL-1C_2025-07-08 ----
				Client sampling date / time	07-Jul-2025 11:40	07-Jul-2025 12:35	07-Jul-2025 13:15	07-Jul-2025 14:38	08-Jul-2025 10:30	08-Jul-2025 13:10	08-Jul-2025 15:15
				Sub-Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
					WT2525447-008	WT2525447-009	WT2525447-010	WT2525447-011	WT2525447-012	WT2525447-013	WT2525447-014
					Result	Result	Result	Result	Result	Result	Result
Metals											
Chromium	7440-47-3	E440/WT	mg/kg		70.0	68.8	89.6	92.1	84.7	89.8	93.1
Cobalt	7440-48-4	E440/WT	mg/kg		22.2	21.4	28.5	29.2	25.9	29.8	23.5
Copper	7440-50-8	E440/WT	mg/kg		49.5	46.9	65.8	68.0	57.5	67.6	56.6
Iron	7439-89-6	E440/WT	mg/kg		109000	94300	104000	103000	117000	106000	125000
Lead	7439-92-1	E440/WT	mg/kg		19.4	19.3	28.9	28.7	25.1	29.6	22.2
Lithium	7439-93-2	E440/WT	mg/kg		34.7	34.6	55.9	56.3	44.5	53.4	41.5
Magnesium	7439-95-4	E440/WT	mg/kg		21000	20800	30000	30400	27400	30100	25300
Manganese	7439-96-5	E440/WT	mg/kg		2230	2240	2860	2940	2450	3050	1930
Mercury	7439-97-6	E510/WT	mg/kg		0.0193	0.0174	0.0261	0.0228	0.0198	0.0259	0.0168
Molybdenum	7439-98-7	E440/WT	mg/kg		7.91	6.99	8.01	8.14	7.63	11.0	11.1
Nickel	7440-02-0	E440/WT	mg/kg		70.3	68.4	85.8	89.4	79.7	89.3	72.6
Phosphorus	7723-14-0	E440/WT	mg/kg		569	509	723	701	604	696	574
Potassium	7440-09-7	E440/WT	mg/kg		6840	6750	8620	8830	7890	9110	7500
Selenium	7782-49-2	E440/WT	mg/kg		0.78	0.70	0.55	0.60	0.60	0.57	0.51
Silver	7440-22-4	E440/WT	mg/kg		0.20	0.18	0.30	0.31	0.25	0.30	0.23
Sodium	7440-23-5	E440/WT	mg/kg		259	257	392	370	314	348	292
Strontium	7440-24-6	E440/WT	mg/kg		15.9	17.2	27.9	23.3	20.8	19.5	20.8
Sulfur	7704-34-9	E440/WT	mg/kg		1200	1300	<1000	<1000	<1500 DLIS	<1000	<1000
Thallium	7440-28-0	E440/WT	mg/kg		0.397	0.396	0.501	0.499	0.464	0.525	0.428
Tin	7440-31-5	E440/WT	mg/kg		11.4	<2.0	2.5	2.6	<2.9 DLIS	2.1	8.7

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-SHAL-2D_2025-07-07 ----	SL-SHAL-2B_2025-07-07 ----	SL-DEEP-1B_2025-07-07 ----	SL-DEEP-1A_2025-07-07 ----	SL-SHAL-1E_2025-07-08 ----	SL-DEEP-1D_2025-07-08 ----	SL-SHAL-1C_2025-07-08 ----
				Client sampling date / time	07-Jul-2025 11:40	07-Jul-2025 12:35	07-Jul-2025 13:15	07-Jul-2025 14:38	08-Jul-2025 10:30	08-Jul-2025 13:10	08-Jul-2025 15:15
				Sub-Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
					WT2525447-008	WT2525447-009	WT2525447-010	WT2525447-011	WT2525447-012	WT2525447-013	WT2525447-014
					Result	Result	Result	Result	Result	Result	Result
Metals											
Titanium	7440-32-6	E440/WT	mg/kg		1110	1090	1420	1410	1440	1360	1320
Tungsten	7440-33-7	E440/WT	mg/kg		1.08	1.10	0.92	0.93	1.33	0.75	1.29
Uranium	7440-61-1	E440/WT	mg/kg		10.1	9.67	8.76	9.12	7.69	8.77	8.45
Vanadium	7440-62-2	E440/WT	mg/kg		45.2	44.0	61.1	62.1	55.6	61.9	51.5
Zinc	7440-66-6	E440/WT	mg/kg		158	112	155	150	134	149	280
Zirconium	7440-67-7	E440/WT	mg/kg		9.1	9.6	12.9	12.1	12.9	13.6	12.3
Aggregate Organics											
Carbon, total organic [TOC]	----	E357/WT	%		3.16	4.10	1.00	1.36	1.31	1.27	1.14
Organic matter	----	E357/WT	%		5.45	7.07	1.72	2.34	2.26	2.19	1.97

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

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-DEEP-1E_2025-07-09 ----	Filter Blank ----	----	----	----	----	----
				Client sampling date / time	09-Jul-2025 08:35	09-Jul-2025 00:00	----	----	----	----	----
				Sub-Matrix	Sediment	Sediment	----	----	----	----	----
					WT2525447-015	WT2525447-016	----	----	----	----	----
					Result	Result	----	----	----	----	----
Sample Preparation											
Dummy analyte	----	EP357/WT	-		Not Authorised	----	----	----	----	----	----
Metals											
Aluminum	7429-90-5	E440/WT	mg/kg		38900	26300	----	----	----	----	----

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-DEEP-1E_2025-07-09 ----	Filter Blank ----	----	----	----	----	----
				Client sampling date / time	09-Jul-2025 08:35	09-Jul-2025 00:00	----	----	----	----	----
				Sub-Matrix	Sediment	Sediment	----	----	----	----	----
					WT2525447-015	WT2525447-016	----	----	----	----	----
					Result	Result	----	----	----	----	----
Metals											
Antimony	7440-36-0	E440/WT	mg/kg		0.35	0.12	----	----	----	----	----
Arsenic	7440-38-2	E440/WT	mg/kg		6.95	7.71	----	----	----	----	----
Barium	7440-39-3	E440/WT	mg/kg		221	76.8	----	----	----	----	----
Beryllium	7440-41-7	E440/WT	mg/kg		1.71	0.37	----	----	----	----	----
Bismuth	7440-69-9	E440/WT	mg/kg		1.06	<0.20	----	----	----	----	----
Boron	7440-42-8	E440/WT	mg/kg		414	5970	----	----	----	----	----
Cadmium	7440-43-9	E440/WT	mg/kg		0.966	0.042	----	----	----	----	----
Calcium	7440-70-2	E440/WT	mg/kg		7450	48100	----	----	----	----	----
Chromium	7440-47-3	E440/WT	mg/kg		98.9	8.16	----	----	----	----	----
Cobalt	7440-48-4	E440/WT	mg/kg		29.1	0.68	----	----	----	----	----
Copper	7440-50-8	E440/WT	mg/kg		75.9	3.05	----	----	----	----	----
Iron	7439-89-6	E440/WT	mg/kg		118000	946	----	----	----	----	----
Lead	7439-92-1	E440/WT	mg/kg		29.6	8.87	----	----	----	----	----
Lithium	7439-93-2	E440/WT	mg/kg		55.6	52.8	----	----	----	----	----
Magnesium	7439-95-4	E440/WT	mg/kg		30200	8020	----	----	----	----	----
Manganese	7439-96-5	E440/WT	mg/kg		2750	25.3	----	----	----	----	----
Mercury	7439-97-6	E510/WT	mg/kg		0.0217	<0.0050	----	----	----	----	----
Molybdenum	7439-98-7	E440/WT	mg/kg		10.7	4.34	----	----	----	----	----
Nickel	7440-02-0	E440/WT	mg/kg		89.5	3.40	----	----	----	----	----
Phosphorus	7723-14-0	E440/WT	mg/kg		694	70	----	----	----	----	----

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-DEEP-1E_2025-07-09 ----	Filter Blank ----	----	----	----	----	----
				Client sampling date / time	09-Jul-2025 08:35	09-Jul-2025 00:00	----	----	----	----	----
				Sub-Matrix	Sediment	Sediment	----	----	----	----	----
					WT2525447-015	WT2525447-016	----	----	----	----	----
					Result	Result	----	----	----	----	----
Metals											
Potassium	7440-09-7	E440/WT	mg/kg		9050	590	----	----	----	----	----
Selenium	7782-49-2	E440/WT	mg/kg		0.69	<0.20	----	----	----	----	----
Silver	7440-22-4	E440/WT	mg/kg		0.31	<0.10	----	----	----	----	----
Sodium	7440-23-5	E440/WT	mg/kg		360	618	----	----	----	----	----
Strontium	7440-24-6	E440/WT	mg/kg		23.8	187	----	----	----	----	----
Sulfur	7704-34-9	E440/WT	mg/kg		<1000	<1000	----	----	----	----	----
Thallium	7440-28-0	E440/WT	mg/kg		0.507	<0.050	----	----	----	----	----
Tin	7440-31-5	E440/WT	mg/kg		2.9	<2.0	----	----	----	----	----
Titanium	7440-32-6	E440/WT	mg/kg		1430	296	----	----	----	----	----
Tungsten	7440-33-7	E440/WT	mg/kg		1.04	<0.50	----	----	----	----	----
Uranium	7440-61-1	E440/WT	mg/kg		9.52	1.14	----	----	----	----	----
Vanadium	7440-62-2	E440/WT	mg/kg		61.3	9.67	----	----	----	----	----
Zinc	7440-66-6	E440/WT	mg/kg		211	10.9	----	----	----	----	----
Zirconium	7440-67-7	E440/WT	mg/kg		14.8	14.7	----	----	----	----	----
Aggregate Organics											
Carbon, total organic [TOC]	----	E357/WT	%		1.30	----	----	----	----	----	----
Organic matter	----	E357/WT	%		2.24	----	----	----	----	----	----

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

Summary of Guideline Limits

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2525447**			
Client	:	**Baffinland Iron Mines Corporation**	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Environmental Lab Results	Account Manager	:	Rick Hawthorne
Address	:	360 Oakville Place Dr Suite 300 Oakville Ontario Canada L6H 6K8	Address	:	60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	----	E-mail	:	Rick.Hawthorne@ALSGlobal.com
Project	:	SEDIMENT TRAPS	Telephone	:	+1 519 886 6910
PO	:	4500156571	Date Samples Received	:	15-Aug-2025 09:00
C-O-C number	:	----	Date Analysis Commenced	:	17-Dec-2025
Sampler	:	AG/JM/ET	Issue Date	:	31-Dec-2025 12:10
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	16			
No. of samples analysed	:	16			

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

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*
Greg Pokocky	Manager - Inorganics	Metals, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Inorganics, Waterloo, Ontario
Travis Peel	Laboratory Analyst	Centralized Prep, Waterloo, Ontario

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

<: 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
DLIS	Detection Limit Adjusted due to insufficient sample.

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SL-SHAL-2C_2025-07-05 ----	SL-SHAL-2E_2025-07-05 ----	SL-SHAL-2A_2025-07-05 ----	SL-DEEP-1C_2025-07-05 ----	SL-SHAL-1D_2025-07-05 ----
					Client sampling date / time	05-Jul-2025 10:10	05-Jul-2025 10:45	05-Jul-2025 11:20	05-Jul-2025 13:55	05-Jul-2025 15:20
						WT2525447-001	WT2525447-002	WT2525447-003	WT2525447-004	WT2525447-005
						Result	Result	Result	Result	Result
Sample Preparation										
Dummy analyte	----	EP357/WT	1	-		Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		32700	29300	27700	23800	28800
Antimony	7440-36-0	E440/WT	0.10	mg/kg		0.26	0.39	0.20	0.21	0.49
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		6.57	6.99	5.07	3.91	5.43
Barium	7440-39-3	E440/WT	0.50	mg/kg		171	158	140	121	167
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		1.44	1.22	1.26	1.06	1.18
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		0.87	0.69	0.64	0.65	0.68
Boron	7440-42-8	E440/WT	5.0	mg/kg		140	352	149	258	397
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		0.768	0.635	0.647	0.580	0.572
Calcium	7440-70-2	E440/WT	50	mg/kg		5030	6370	5440	6000	7320
Chromium	7440-47-3	E440/WT	0.50	mg/kg		76.5	142	72.4	54.4	70.2
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		25.8	22.5	20.4	16.3	22.3
Copper	7440-50-8	E440/WT	0.50	mg/kg		51.3	63.2	48.7	38.6	47.5
Iron	7439-89-6	E440/WT	50	mg/kg		152000	134000	102000	74700	176000
Lead	7439-92-1	E440/WT	0.50	mg/kg		21.3	22.6	19.8	18.9	19.6
Lithium	7439-93-2	E440/WT	2.0	mg/kg		42.9	37.2	36.2	31.1	36.0
Magnesium	7439-95-4	E440/WT	20	mg/kg		24400	22700	20100	18600	21800
Manganese	7439-96-5	E440/WT	1.0	mg/kg		1840	1930	1780	1490	1970
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		0.0150	0.0144	0.0149	0.0102	0.0144

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SL-SHAL-2C_2025-07-05 ----	SL-SHAL-2E_2025-07-05 ----	SL-SHAL-2A_2025-07-05 ----	SL-DEEP-1C_2025-07-05 ----	SL-SHAL-1D_2025-07-05 ----
					Client sampling date / time	05-Jul-2025 10:10	05-Jul-2025 10:45	05-Jul-2025 11:20	05-Jul-2025 13:55	05-Jul-2025 15:20
						WT2525447-001	WT2525447-002	WT2525447-003	WT2525447-004	WT2525447-005
						Result	Result	Result	Result	Result
Metals										
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		8.15	9.35	7.54	4.83	18.4
Nickel	7440-02-0	E440/WT	0.50	mg/kg		77.6	71.5	67.9	50.1	67.0
Phosphorus	7723-14-0	E440/WT	50	mg/kg		642	589	610	458	585
Potassium	7440-09-7	E440/WT	100	mg/kg		7670	6630	6380	6140	6330
Selenium	7782-49-2	E440/WT	0.20	mg/kg		0.57	0.49	0.68	0.32	0.57
Silver	7440-22-4	E440/WT	0.10	mg/kg		0.21	0.23	0.19	0.20	0.20
Sodium	7440-23-5	E440/WT	50	mg/kg		279	313	290	240	264
Strontium	7440-24-6	E440/WT	0.50	mg/kg		13.4	19.6	14.7	14.9	21.5
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1900 DLIS	1200	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		0.445	0.406	0.396	0.317	0.374
Tin	7440-31-5	E440/WT	2.0	mg/kg		2.2	4.3	2.9	5.8	3.4
Titanium	7440-32-6	E440/WT	1.0	mg/kg		1260	1300	1150	989	1150
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		1.14	1.46	1.16	1.60	1.34
Uranium	7440-61-1	E440/WT	0.050	mg/kg		8.38	8.32	11.2	4.68	15.0
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		50.8	48.6	46.9	38.0	44.0
Zinc	7440-66-6	E440/WT	2.0	mg/kg		145	471	131	122	837
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		9.4	12.6	7.0	11.4	11.5
Aggregate Organics										
Carbon, total organic [TOC]	----	E357/WT	0.10	%		1.71	1.41	3.30	0.95	1.11
Organic matter	----	E357/WT	0.20	%		2.95	2.43	5.69	1.64	1.91

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

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SL-SHAL-1B_2025-07-05 ----	SL-SHAL-1A_2025-07-06 ----	SL-SHAL-2D_2025-07-07 ----	SL-SHAL-2B_2025-07-07 ----	SL-DEEP-1B_2025-07-07 ----
					Client sampling date / time	05-Jul-2025 16:05	06-Jul-2025 14:20	07-Jul-2025 11:40	07-Jul-2025 12:35	07-Jul-2025 13:15
						WT2525447-006	WT2525447-007	WT2525447-008	WT2525447-009	WT2525447-010
						Result	Result	Result	Result	Result
Sample Preparation										
Dummy analyte	----	EP357/WT	1	-		Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		34600	33400	28400	28400	39300
Antimony	7440-36-0	E440/WT	0.10	mg/kg		0.26	0.19	0.21	0.19	0.32
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		6.13	5.67	5.78	5.47	6.27
Barium	7440-39-3	E440/WT	0.50	mg/kg		188	171	157	152	218
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		1.60	1.34	1.20	1.21	1.78
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		0.86	0.77	0.69	0.71	1.04
Boron	7440-42-8	E440/WT	5.0	mg/kg		458	295	221	234	563
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		0.837	0.884	0.876	0.904	0.950
Calcium	7440-70-2	E440/WT	50	mg/kg		7780	6340	5470	5820	8590
Chromium	7440-47-3	E440/WT	0.50	mg/kg		82.6	76.7	70.0	68.8	89.6
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		25.5	23.9	22.2	21.4	28.5
Copper	7440-50-8	E440/WT	0.50	mg/kg		57.3	54.1	49.5	46.9	65.8
Iron	7439-89-6	E440/WT	50	mg/kg		116000	105000	109000	94300	104000
Lead	7439-92-1	E440/WT	0.50	mg/kg		25.1	24.0	19.4	19.3	28.9
Lithium	7439-93-2	E440/WT	2.0	mg/kg		47.2	41.1	34.7	34.6	55.9
Magnesium	7439-95-4	E440/WT	20	mg/kg		26500	24500	21000	20800	30000
Manganese	7439-96-5	E440/WT	1.0	mg/kg		2430	2250	2230	2240	2860
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		0.0288	0.0256	0.0193	0.0174	0.0261
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		8.71	7.33	7.91	6.99	8.01

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SL-SHAL-1B_2025-07-05 ----	SL-SHAL-1A_2025-07-06 ----	SL-SHAL-2D_2025-07-07 ----	SL-SHAL-2B_2025-07-07 ----	SL-DEEP-1B_2025-07-07 ----
					Client sampling date / time	05-Jul-2025 16:05	06-Jul-2025 14:20	07-Jul-2025 11:40	07-Jul-2025 12:35	07-Jul-2025 13:15
						WT2525447-006	WT2525447-007	WT2525447-008	WT2525447-009	WT2525447-010
						Result	Result	Result	Result	Result
Metals										
Nickel	7440-02-0	E440/WT	0.50	mg/kg		77.7	75.4	70.3	68.4	85.8
Phosphorus	7723-14-0	E440/WT	50	mg/kg		627	602	569	509	723
Potassium	7440-09-7	E440/WT	100	mg/kg		7830	7450	6840	6750	8620
Selenium	7782-49-2	E440/WT	0.20	mg/kg		0.67	0.55	0.78	0.70	0.55
Silver	7440-22-4	E440/WT	0.10	mg/kg		0.25	0.24	0.20	0.18	0.30
Sodium	7440-23-5	E440/WT	50	mg/kg		323	296	259	257	392
Strontium	7440-24-6	E440/WT	0.50	mg/kg		24.0	18.9	15.9	17.2	27.9
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1100 DLIS	<1000	1200	1300	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		0.479	0.453	0.397	0.396	0.501
Tin	7440-31-5	E440/WT	2.0	mg/kg		2.8	<2.0	11.4	<2.0	2.5
Titanium	7440-32-6	E440/WT	1.0	mg/kg		1400	1310	1110	1090	1420
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		1.27	1.03	1.08	1.10	0.92
Uranium	7440-61-1	E440/WT	0.050	mg/kg		8.33	7.65	10.1	9.67	8.76
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		54.3	51.7	45.2	44.0	61.1
Zinc	7440-66-6	E440/WT	2.0	mg/kg		137	131	158	112	155
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		15.4	12.1	9.1	9.6	12.9
Aggregate Organics										
Carbon, total organic [TOC]	----	E357/WT	0.10	%		1.71	1.58	3.16	4.10	1.00
Organic matter	----	E357/WT	0.20	%		2.95	2.72	5.45	7.07	1.72

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

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SL-DEEP-1A_2025-07-07 ----	SL-SHAL-1E_2025-07-08 ----	SL-DEEP-1D_2025-07-08 ----	SL-SHAL-1C_2025-07-08 ----	SL-DEEP-1E_2025-07-09 ----
					Client sampling date / time	07-Jul-2025 14:38	08-Jul-2025 10:30	08-Jul-2025 13:10	08-Jul-2025 15:15	09-Jul-2025 08:35
						WT2525447-011	WT2525447-012	WT2525447-013	WT2525447-014	WT2525447-015
						Result	Result	Result	Result	Result
Sample Preparation										
Dummy analyte	----	EP357/WT	1	-		Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		39500	34900	38900	33600	38900
Antimony	7440-36-0	E440/WT	0.10	mg/kg		0.18	0.23	0.22	0.31	0.35
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		6.34	6.40	6.26	6.03	6.95
Barium	7440-39-3	E440/WT	0.50	mg/kg		217	190	222	178	221
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		1.74	1.51	1.71	1.37	1.71
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		1.04	0.88	1.09	0.77	1.06
Boron	7440-42-8	E440/WT	5.0	mg/kg		390	356	262	363	414
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		0.914	0.819	1.01	0.628	0.966
Calcium	7440-70-2	E440/WT	50	mg/kg		7120	7050	6280	7060	7450
Chromium	7440-47-3	E440/WT	0.50	mg/kg		92.1	84.7	89.8	93.1	98.9
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		29.2	25.9	29.8	23.5	29.1
Copper	7440-50-8	E440/WT	0.50	mg/kg		68.0	57.5	67.6	56.6	75.9
Iron	7439-89-6	E440/WT	50	mg/kg		103000	117000	106000	125000	118000
Lead	7439-92-1	E440/WT	0.50	mg/kg		28.7	25.1	29.6	22.2	29.6
Lithium	7439-93-2	E440/WT	2.0	mg/kg		56.3	44.5	53.4	41.5	55.6
Magnesium	7439-95-4	E440/WT	20	mg/kg		30400	27400	30100	25300	30200
Manganese	7439-96-5	E440/WT	1.0	mg/kg		2940	2450	3050	1930	2750
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		0.0228	0.0198	0.0259	0.0168	0.0217
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		8.14	7.63	11.0	11.1	10.7

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SL-DEEP-1A_2025-07-07 ----	SL-SHAL-1E_2025-07-08 ----	SL-DEEP-1D_2025-07-08 ----	SL-SHAL-1C_2025-07-08 ----	SL-DEEP-1E_2025-07-09 ----
					Client sampling date / time	07-Jul-2025 14:38	08-Jul-2025 10:30	08-Jul-2025 13:10	08-Jul-2025 15:15	09-Jul-2025 08:35
						WT2525447-011	WT2525447-012	WT2525447-013	WT2525447-014	WT2525447-015
						Result	Result	Result	Result	Result
Metals										
Nickel	7440-02-0	E440/WT	0.50	mg/kg		89.4	79.7	89.3	72.6	89.5
Phosphorus	7723-14-0	E440/WT	50	mg/kg		701	604	696	574	694
Potassium	7440-09-7	E440/WT	100	mg/kg		8830	7890	9110	7500	9050
Selenium	7782-49-2	E440/WT	0.20	mg/kg		0.60	0.60	0.57	0.51	0.69
Silver	7440-22-4	E440/WT	0.10	mg/kg		0.31	0.25	0.30	0.23	0.31
Sodium	7440-23-5	E440/WT	50	mg/kg		370	314	348	292	360
Strontium	7440-24-6	E440/WT	0.50	mg/kg		23.3	20.8	19.5	20.8	23.8
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1500 DLIS	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		0.499	0.464	0.525	0.428	0.507
Tin	7440-31-5	E440/WT	2.0	mg/kg		2.6	<2.9 DLIS	2.1	8.7	2.9
Titanium	7440-32-6	E440/WT	1.0	mg/kg		1410	1440	1360	1320	1430
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		0.93	1.33	0.75	1.29	1.04
Uranium	7440-61-1	E440/WT	0.050	mg/kg		9.12	7.69	8.77	8.45	9.52
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		62.1	55.6	61.9	51.5	61.3
Zinc	7440-66-6	E440/WT	2.0	mg/kg		150	134	149	280	211
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		12.1	12.9	13.6	12.3	14.8
Aggregate Organics										
Carbon, total organic [TOC]	----	E357/WT	0.10	%		1.36	1.31	1.27	1.14	1.30
Organic matter	----	E357/WT	0.20	%		2.34	2.26	2.19	1.97	2.24

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

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Filter Blank ----	----	----	----	----
					Client sampling date / time	09-Jul-2025 00:00	----	----	----	----
					WT2525447-016	----	----	----	----	----
					Result	----	----	----	----	----
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg	26300	----	----	----	----	
Antimony	7440-36-0	E440/WT	0.10	mg/kg	0.12	----	----	----	----	
Arsenic	7440-38-2	E440/WT	0.10	mg/kg	7.71	----	----	----	----	
Barium	7440-39-3	E440/WT	0.50	mg/kg	76.8	----	----	----	----	
Beryllium	7440-41-7	E440/WT	0.10	mg/kg	0.37	----	----	----	----	
Bismuth	7440-69-9	E440/WT	0.20	mg/kg	<0.20	----	----	----	----	
Boron	7440-42-8	E440/WT	5.0	mg/kg	5970	----	----	----	----	
Cadmium	7440-43-9	E440/WT	0.020	mg/kg	0.042	----	----	----	----	
Calcium	7440-70-2	E440/WT	50	mg/kg	48100	----	----	----	----	
Chromium	7440-47-3	E440/WT	0.50	mg/kg	8.16	----	----	----	----	
Cobalt	7440-48-4	E440/WT	0.10	mg/kg	0.68	----	----	----	----	
Copper	7440-50-8	E440/WT	0.50	mg/kg	3.05	----	----	----	----	
Iron	7439-89-6	E440/WT	50	mg/kg	946	----	----	----	----	
Lead	7439-92-1	E440/WT	0.50	mg/kg	8.87	----	----	----	----	
Lithium	7439-93-2	E440/WT	2.0	mg/kg	52.8	----	----	----	----	
Magnesium	7439-95-4	E440/WT	20	mg/kg	8020	----	----	----	----	
Manganese	7439-96-5	E440/WT	1.0	mg/kg	25.3	----	----	----	----	
Mercury	7439-97-6	E510/WT	0.0050	mg/kg	<0.0050	----	----	----	----	
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg	4.34	----	----	----	----	
Nickel	7440-02-0	E440/WT	0.50	mg/kg	3.40	----	----	----	----	
Phosphorus	7723-14-0	E440/WT	50	mg/kg	70	----	----	----	----	

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Filter Blank ----	----	----	----	----
					Client sampling date / time	09-Jul-2025 00:00	----	----	----	----
					WT2525447-016	----	----	----	----	----
					Result	----	----	----	----	----
Metals										
Potassium	7440-09-7	E440/WT	100	mg/kg	590	----	----	----	----	
Selenium	7782-49-2	E440/WT	0.20	mg/kg	<0.20	----	----	----	----	
Silver	7440-22-4	E440/WT	0.10	mg/kg	<0.10	----	----	----	----	
Sodium	7440-23-5	E440/WT	50	mg/kg	618	----	----	----	----	
Strontium	7440-24-6	E440/WT	0.50	mg/kg	187	----	----	----	----	
Sulfur	7704-34-9	E440/WT	1000	mg/kg	<1000	----	----	----	----	
Thallium	7440-28-0	E440/WT	0.050	mg/kg	<0.050	----	----	----	----	
Tin	7440-31-5	E440/WT	2.0	mg/kg	<2.0	----	----	----	----	
Titanium	7440-32-6	E440/WT	1.0	mg/kg	296	----	----	----	----	
Tungsten	7440-33-7	E440/WT	0.50	mg/kg	<0.50	----	----	----	----	
Uranium	7440-61-1	E440/WT	0.050	mg/kg	1.14	----	----	----	----	
Vanadium	7440-62-2	E440/WT	0.20	mg/kg	9.67	----	----	----	----	
Zinc	7440-66-6	E440/WT	2.0	mg/kg	10.9	----	----	----	----	
Zirconium	7440-67-7	E440/WT	1.0	mg/kg	14.7	----	----	----	----	

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

Quality Control Interpretive Report

Work Order	:	**WT2525447**			
Client	:	Baffinland Iron Mines Corporation	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Environmental Lab Results	Account Manager	:	Rick Hawthorne
Address	:	360 Oakville Place Dr Suite 300 Oakville ON Canada L6H 6K8	Address	:	60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	----	Telephone	:	+1 519 886 6910
Project	:	SEDIMENT TRAPS	Date Samples Received	:	15-Aug-2025 09:00
PO	:	4500156571	Issue Date	:	31-Dec-2025 12:11
C-O-C number	:	----			
Sampler	:	AG/JM/ET			
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	16			
No. of samples analysed	:	16			

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 Services 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 Laboratory Control Sample Duplicate (LCSD) outliers occur
- No Matrix Spike outliers occur.
- No Matrix Spike Duplicate (MSD) 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.

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: Soil/Solid

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

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Total Organic Carbon by Wet Oxidation and Titration												
Glass soil jar/Teflon lined cap												
SL-SHAL-2C_2025-07-05	001	2219008	E357	05-Jul-2025	17-Dec-2025	28 days	165 days	× EHTR	17-Dec-2025	28 days	165 days	× EHTR
SL-SHAL-2E_2025-07-05	002	2219008	E357	05-Jul-2025	17-Dec-2025	28 days	165 days	× EHTR	17-Dec-2025	28 days	165 days	× EHTR
SL-SHAL-2A_2025-07-05	003	2219008	E357	05-Jul-2025	17-Dec-2025	28 days	165 days	× EHTR	17-Dec-2025	28 days	165 days	× EHTR
SL-DEEP-1C_2025-07-05	004	2219008	E357	05-Jul-2025	17-Dec-2025	28 days	165 days	× EHTR	17-Dec-2025	28 days	165 days	× EHTR
SL-SHAL-1D_2025-07-05	005	2219008	E357	05-Jul-2025	17-Dec-2025	28 days	165 days	× EHTR	17-Dec-2025	28 days	165 days	× EHTR
SL-SHAL-1B_2025-07-05	006	2219008	E357	05-Jul-2025	17-Dec-2025	28 days	165 days	× EHTR	17-Dec-2025	28 days	165 days	× EHTR
SL-SHAL-1A_2025-07-06	007	2219008	E357	06-Jul-2025	17-Dec-2025	28 days	164 days	× EHTR	17-Dec-2025	28 days	164 days	× EHTR
SL-SHAL-2D_2025-07-07	008	2219008	E357	07-Jul-2025	17-Dec-2025	28 days	163 days	× EHTR	17-Dec-2025	28 days	163 days	× EHTR
SL-SHAL-2B_2025-07-07	009	2219008	E357	07-Jul-2025	17-Dec-2025	28 days	163 days	× EHTR	17-Dec-2025	28 days	163 days	× EHTR
SL-DEEP-1B_2025-07-07	010	2219008	E357	07-Jul-2025	17-Dec-2025	28 days	163 days	× EHTR	17-Dec-2025	28 days	163 days	× EHTR
SL-DEEP-1A_2025-07-07	011	2219008	E357	07-Jul-2025	17-Dec-2025	28 days	163 days	× EHTR	17-Dec-2025	28 days	163 days	× EHTR
SL-SHAL-1E_2025-07-08	012	2219008	E357	08-Jul-2025	17-Dec-2025	28 days	162 days	× EHTR	17-Dec-2025	28 days	162 days	× EHTR
SL-DEEP-1D_2025-07-08	013	2219008	E357	08-Jul-2025	17-Dec-2025	28 days	162 days	× EHTR	17-Dec-2025	28 days	162 days	× EHTR

Matrix: Soil/Solid

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

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Aggregate Organics : Total Organic Carbon by Wet Oxidation and Titration												
Glass soil jar/Teflon lined cap												
SL-SHAL-1C_2025-07-08	014	2219008	E357	08-Jul-2025	17-Dec-2025	28 days	162 days	× EHTR	17-Dec-2025	28 days	162 days	× EHTR
SL-DEEP-1E_2025-07-09	015	2219008	E357	09-Jul-2025	17-Dec-2025	28 days	161 days	× EHTR	17-Dec-2025	28 days	161 days	× EHTR
Metals : Mercury in Soil/Solid by CVAAS												
Glass soil jar/Teflon lined cap												
SL-SHAL-2C_2025-07-05	001	2219009	E510	05-Jul-2025	17-Dec-2025	28 days	165 days	× EHTR	18-Dec-2025	28 days	0 days	✓
SL-SHAL-2E_2025-07-05	002	2219009	E510	05-Jul-2025	17-Dec-2025	28 days	165 days	× EHTR	18-Dec-2025	28 days	0 days	✓
SL-SHAL-2A_2025-07-05	003	2219009	E510	05-Jul-2025	17-Dec-2025	28 days	165 days	× EHTR	18-Dec-2025	28 days	0 days	✓
SL-DEEP-1C_2025-07-05	004	2219009	E510	05-Jul-2025	17-Dec-2025	28 days	165 days	× EHTR	18-Dec-2025	28 days	0 days	✓
SL-SHAL-1D_2025-07-05	005	2219009	E510	05-Jul-2025	17-Dec-2025	28 days	165 days	× EHTR	18-Dec-2025	28 days	0 days	✓
SL-SHAL-1B_2025-07-05	006	2219009	E510	05-Jul-2025	17-Dec-2025	28 days	165 days	× EHTR	18-Dec-2025	28 days	0 days	✓
SL-SHAL-1A_2025-07-06	007	2219009	E510	06-Jul-2025	17-Dec-2025	28 days	164 days	× EHTR	18-Dec-2025	28 days	0 days	✓
SL-SHAL-2D_2025-07-07	008	2219009	E510	07-Jul-2025	17-Dec-2025	28 days	163 days	× EHTR	18-Dec-2025	28 days	0 days	✓
SL-SHAL-2B_2025-07-07	009	2219009	E510	07-Jul-2025	17-Dec-2025	28 days	163 days	× EHTR	18-Dec-2025	28 days	0 days	✓
SL-DEEP-1B_2025-07-07	010	2219009	E510	07-Jul-2025	17-Dec-2025	28 days	163 days	× EHTR	18-Dec-2025	28 days	0 days	✓
SL-DEEP-1A_2025-07-07	011	2219009	E510	07-Jul-2025	17-Dec-2025	28 days	163 days	× EHTR	18-Dec-2025	28 days	0 days	✓
SL-SHAL-1E_2025-07-08	012	2219009	E510	08-Jul-2025	17-Dec-2025	28 days	162 days	× EHTR	18-Dec-2025	28 days	0 days	✓
SL-DEEP-1D_2025-07-08	013	2219009	E510	08-Jul-2025	17-Dec-2025	28 days	162 days	× EHTR	18-Dec-2025	28 days	0 days	✓
SL-SHAL-1C_2025-07-08	014	2219009	E510	08-Jul-2025	17-Dec-2025	28 days	162 days	× EHTR	18-Dec-2025	28 days	0 days	✓

Matrix: Soil/Solid

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

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Metals : Mercury in Soil/Solid by CVAAS												
Glass soil jar/Teflon lined cap												
SL-DEEP-1E_2025-07-09	015	2219009	E510	09-Jul-2025	17-Dec-2025	28 days	161 days	× EHTR	18-Dec-2025	28 days	0 days	✓
Filter Blank	016	2402645	E510	09-Jul-2025	17-Dec-2025	28 days	161 days	× EHTR	31-Dec-2025	28 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS												
Glass soil jar/Teflon lined cap												
SL-SHAL-2C_2025-07-05	001	2219010	E440	05-Jul-2025	17-Dec-2025	180 days	165 days	✓	18-Dec-2025	180 days	165 days	✓
SL-SHAL-2E_2025-07-05	002	2219010	E440	05-Jul-2025	17-Dec-2025	180 days	165 days	✓	18-Dec-2025	180 days	165 days	✓
SL-SHAL-2A_2025-07-05	003	2219010	E440	05-Jul-2025	17-Dec-2025	180 days	165 days	✓	18-Dec-2025	180 days	165 days	✓
SL-DEEP-1C_2025-07-05	004	2219010	E440	05-Jul-2025	17-Dec-2025	180 days	165 days	✓	18-Dec-2025	180 days	165 days	✓
SL-SHAL-1D_2025-07-05	005	2219010	E440	05-Jul-2025	17-Dec-2025	180 days	165 days	✓	18-Dec-2025	180 days	165 days	✓
SL-SHAL-1B_2025-07-05	006	2219010	E440	05-Jul-2025	17-Dec-2025	180 days	165 days	✓	18-Dec-2025	180 days	165 days	✓
SL-SHAL-1A_2025-07-06	007	2219010	E440	06-Jul-2025	17-Dec-2025	180 days	164 days	✓	18-Dec-2025	180 days	164 days	✓
SL-SHAL-2D_2025-07-07	008	2219010	E440	07-Jul-2025	17-Dec-2025	180 days	163 days	✓	18-Dec-2025	180 days	163 days	✓
SL-SHAL-2B_2025-07-07	009	2219010	E440	07-Jul-2025	17-Dec-2025	180 days	163 days	✓	18-Dec-2025	180 days	163 days	✓
SL-DEEP-1B_2025-07-07	010	2219010	E440	07-Jul-2025	17-Dec-2025	180 days	163 days	✓	18-Dec-2025	180 days	163 days	✓
SL-DEEP-1A_2025-07-07	011	2219010	E440	07-Jul-2025	17-Dec-2025	180 days	163 days	✓	18-Dec-2025	180 days	163 days	✓
SL-SHAL-1E_2025-07-08	012	2219010	E440	08-Jul-2025	17-Dec-2025	180 days	162 days	✓	18-Dec-2025	180 days	162 days	✓
SL-DEEP-1D_2025-07-08	013	2219010	E440	08-Jul-2025	17-Dec-2025	180 days	162 days	✓	18-Dec-2025	180 days	162 days	✓
SL-SHAL-1C_2025-07-08	014	2219010	E440	08-Jul-2025	17-Dec-2025	180 days	162 days	✓	18-Dec-2025	180 days	162 days	✓

Matrix: Soil/Solid

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

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Metals : Metals in Soil/Solid by CRC ICPMS												
Glass soil jar/Teflon lined cap												
SL-DEEP-1E_2025-07-09	015	2219010	E440	09-Jul-2025	17-Dec-2025	180 days	161 days	✓	18-Dec-2025	180 days	162 days	✓
Filter Blank	016	2402644	E440	09-Jul-2025	17-Dec-2025	180 days	161 days	✓	30-Dec-2025	180 days	174 days	✓

Legend & Qualifier Definitions

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: 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)							
Total Organic Carbon by Wet Oxidation and Titration	E357	2219008	1	15	6.7	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2219010	1	17	5.9	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2219009	1	17	5.9	5.0	✓
Laboratory Control Samples (LCS)							
Total Organic Carbon by Wet Oxidation and Titration	E357	2219008	2	15	13.3	10.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2219010	2	17	11.8	10.0	✓
Mercury in Soil/Solid by CVAAS	E510	2219009	2	17	11.8	10.0	✓
Method Blanks (MB)							
Total Organic Carbon by Wet Oxidation and Titration	E357	2219008	1	15	6.7	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2219010	1	17	5.9	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2219009	1	17	5.9	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
Mercury in Soil/Solid by CVAAS	E510 ALS Environmental - Waterloo	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.
Metals in Soil/Solid by CRC ICPMS	E440 ALS Environmental - Waterloo	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.
Total Organic Carbon by Wet Oxidation and Titration	E357 ALS Environmental - Waterloo	Soil/Solid	CSSS (2008) 21.3.2 (mod)	Total Organic Carbon is determined by wet oxidation digestion using potassium dichromate and sulfuric acid (Walkley-Black). Oxidized organic carbon is determined by back-titration with ferrous ammonium sulfate. Organic matter is estimated from the organic carbon result using the Van Bemmelon factor.
Preparation Methods	**Method / Lab**	**Matrix**	**Method Reference**	**Method Descriptions**
Digestion for Metals and Mercury	EP440 ALS Environmental - Waterloo	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.
Sample Preparation - TOC by Wet Oxidation and Titration	EP357 ALS Environmental - Waterloo	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	A sample is set in a tray and is dried at less than 60°C until dry (typically overnight). The dried sample is then mechanically disaggregated and passed through a 2 mm sieve. The portion of sample passing 2 mm sieve is used for analysis.

QUALITY CONTROL REPORT

Work Order	: **WT2525447**	Page	: 1 of 10
Client	: Baffinland Iron Mines Corporation	Laboratory	: ALS Environmental - Waterloo
Contact	: Environmental Lab Results	Account Manager	: Rick Hawthorne
Address	: 360 Oakville Place Dr Suite 300 Oakville ON Canada L6H 6K8	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: ----	Telephone	: +1 519 886 6910
Project	: SEDIMENT TRAPS	Date Samples Received	: 15-Aug-2025 09:00
PO	: 4500156571	Date Analysis Commenced	: 17-Dec-2025
C-O-C number	: ----	Issue Date	: 31-Dec-2025 12:10
Sampler	: AG/JM/ET		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 16		
No. of samples analysed	: 16		

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
- 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*
Greg Pokocky	Manager - Inorganics	Waterloo Inorganics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Waterloo Metals, Waterloo, Ontario
Travis Peel	Laboratory Analyst	Waterloo Centralized Prep, Waterloo, Ontario

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
Metals (QC Lot: 2219009)											
WT2525447-001	SL-SHAL-2C_2025-07-05	Mercury	7439-97-6	E510	0.0050	mg/kg	0.0150	0.0153	0.0003	Diff <2x LOR	----
Metals (QC Lot: 2219010)											
WT2525447-001	SL-SHAL-2C_2025-07-05	Aluminum	7429-90-5	E440	50	mg/kg	32700	31400	4.13%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	0.26	0.22	0.04	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	6.57	6.45	1.80%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	171	166	3.15%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	1.44	1.41	2.40%	30%	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	0.87	0.76	0.10	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	140	129	8.49%	30%	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	0.768	0.754	1.75%	30%	----
		Calcium	7440-70-2	E440	50	mg/kg	5030	4820	4.31%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	76.5	75.7	1.04%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	25.8	25.5	0.948%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	51.3	50.9	0.821%	30%	----
		Iron	7439-89-6	E440	50	mg/kg	152000	151000	0.898%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	21.3	20.4	4.58%	40%	----
		Lithium	7439-93-2	E440	2.0	mg/kg	42.9	41.5	3.34%	30%	----
		Magnesium	7439-95-4	E440	20	mg/kg	24400	23800	2.55%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	1840	1870	2.00%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	8.15	8.08	0.874%	40%	----
		Nickel	7440-02-0	E440	0.50	mg/kg	77.6	76.4	1.53%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	642	639	0.466%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	7670	7080	7.97%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	0.57	0.56	0.009	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	0.21	0.21	0.003	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	279	263	5.97%	40%	----
		Strontium	7440-24-6	E440	0.50	mg/kg	13.4	13.1	2.03%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	0.445	0.416	6.79%	30%	----
		Tin	7440-31-5	E440	2.0	mg/kg	2.2	2.1	0.05	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*
Metals (QC Lot: 2219010) - continued											
WT2525447-001	SL-SHAL-2C_2025-07-05	Titanium	7440-32-6	E440	1.0	mg/kg	1260	1230	2.36%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	1.14	1.03	0.12	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	8.38	8.11	3.27%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	50.8	50.5	0.526%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	145	145	0.131%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	9.4	9.5	1.65%	30%	----
Aggregate Organics (QC Lot: 2219008)											
WT2525447-001	SL-SHAL-2C_2025-07-05	Carbon, total organic [TOC]	----	E357	0.10	%	1.71	1.65	3.64%	20%	----

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
Metals (QCLot: 2219009)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 2219010)						
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	----
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	----
Uranium	7440-61-1	E440	0.05	mg/kg	<0.050	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2219010) - continued						
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	----
Aggregate Organics (QCLot: 2219008)						
Carbon, total organic [TOC]	----	E357	0.1	%	<0.10	----

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
Metals (QCLot: 2219009)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	107	80.0	120	----
Metals (QCLot: 2219010)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	96.6	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	105	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	103	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	97.7	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	97.8	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	96.8	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	98.7	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	96.8	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	97.9	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	96.8	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	97.3	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	97.1	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	97.2	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	99.1	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	91.7	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	103	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	97.0	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	104	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	96.2	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	101	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	99.0	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	97.7	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	91.9	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	97.2	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	96.8	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	92.5	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	96.9	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	99.3	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	96.9	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	98.3	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	97.9	80.0	120	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report: Spike: Target Concentration	Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Metals (QCLot: 2219010) - continued									
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	94.7	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	97.1	80.0	120	----
Aggregate Organics (QCLot: 2219008)									
Carbon, total organic [TOC]	----	E357	0.1	%	42.1 %	112	80.0	120	----

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
Metals (QCLot: 2219009)									
QC-2219009-003	RM	Mercury	7439-97-6	E510	0.068 mg/kg	103	70.0	130	----
Metals (QCLot: 2219010)									
QC-2219010-003	RM	Aluminum	7429-90-5	E440	22500 mg/kg	105	70.0	130	----
QC-2219010-003	RM	Antimony	7440-36-0	E440	24.8 mg/kg	107	70.0	130	----
QC-2219010-003	RM	Arsenic	7440-38-2	E440	21.2 mg/kg	97.9	70.0	130	----
QC-2219010-003	RM	Barium	7440-39-3	E440	788 mg/kg	98.2	70.0	130	----
QC-2219010-003	RM	Beryllium	7440-41-7	E440	1.82 mg/kg	103	70.0	130	----
QC-2219010-003	RM	Bismuth	7440-69-9	E440	1.78 mg/kg	93.7	70.0	130	----
QC-2219010-003	RM	Cadmium	7440-43-9	E440	2.15 mg/kg	102	70.0	130	----
QC-2219010-003	RM	Calcium	7440-70-2	E440	4900 mg/kg	103	70.0	130	----
QC-2219010-003	RM	Chromium	7440-47-3	E440	56.9 mg/kg	100	70.0	130	----
QC-2219010-003	RM	Cobalt	7440-48-4	E440	32 mg/kg	99.7	70.0	130	----
QC-2219010-003	RM	Copper	7440-50-8	E440	969 mg/kg	106	70.0	130	----
QC-2219010-003	RM	Iron	7439-89-6	E440	32700 mg/kg	103	70.0	130	----
QC-2219010-003	RM	Lead	7439-92-1	E440	919 mg/kg	98.6	70.0	130	----
QC-2219010-003	RM	Lithium	7439-93-2	E440	47.3 mg/kg	100	70.0	130	----
QC-2219010-003	RM	Magnesium	7439-95-4	E440	7780 mg/kg	107	70.0	130	----
QC-2219010-003	RM	Manganese	7439-96-5	E440	8640 mg/kg	102	70.0	130	----
QC-2219010-003	RM	Molybdenum	7439-98-7	E440	25.1 mg/kg	103	70.0	130	----
QC-2219010-003	RM	Nickel	7440-02-0	E440	1000 mg/kg	104	70.0	130	----
QC-2219010-003	RM	Phosphorus	7723-14-0	E440	660 mg/kg	98.8	70.0	130	----
QC-2219010-003	RM	Potassium	7440-09-7	E440	10800 mg/kg	104	70.0	130	----
QC-2219010-003	RM	Selenium	7782-49-2	E440	1.04 mg/kg	108	60.0	140	----
QC-2219010-003	RM	Silver	7440-22-4	E440	8.98 mg/kg	100	70.0	130	----
QC-2219010-003	RM	Sodium	7440-23-5	E440	1770 mg/kg	109	70.0	130	----
QC-2219010-003	RM	Strontium	7440-24-6	E440	41 mg/kg	97.7	70.0	130	----
QC-2219010-003	RM	Sulfur	7704-34-9	E440	3940 mg/kg	107	50.0	150	----
QC-2219010-003	RM	Thallium	7440-28-0	E440	0.907 mg/kg	99.8	70.0	130	----
QC-2219010-003	RM	Tin	7440-31-5	E440	3.79 mg/kg	104	40.0	160	----
QC-2219010-003	RM	Titanium	7440-32-6	E440	2790 mg/kg	103	70.0	130	----
QC-2219010-003	RM	Tungsten	7440-33-7	E440	6.99 mg/kg	121	70.0	130	----
QC-2219010-003	RM	Uranium	7440-61-1	E440	3.97 mg/kg	99.5	70.0	130	----
QC-2219010-003	RM	Vanadium	7440-62-2	E440	66.2 mg/kg	99.6	70.0	130	----

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: 2219010) - continued									
QC-2219010-003	RM	Zinc	7440-66-6	E440	828 mg/kg	99.4	70.0	130	----
QC-2219010-003	RM	Zirconium	7440-67-7	E440	6.91 mg/kg	121	70.0	130	----
Aggregate Organics (QCLot: 2219008)									
QC-2219008-003	RM	Carbon, total organic [TOC]	----	E357	0.386 %	94.7	70.0	130	----

Baffinland

Chain of Custody: 25 07 09 - Sediment Traps

Client Info	Project Info	Laboratory Info	
Baffinland Iron Mine Corporation 2275 Upper Middle Rd E, Suite 300 Oakville, ON, L6H 0C3 **Phone:** 647-253-0596 x6016/6039/4131 **Email:** environment.coordinators@baffinland.com; environment.superintendents@baffinland.com	**Job Reference (Project):** Sediment Traps **Task:** , AEMP_Sediment_240705 **Site:** MS	**Lab Name:** ALS Waterloo **Contact:** Rick Hawthorne **Phone:** 519.886.6910 **Email:** Rick.Hawthorne@ALSGlobal.com	**Address:** Unit 1 - 60 Northland Road Waterloo, ON,N2V 2B8
Email Invoice: ap@baffinland.com; environment.superintendents@baffinland.com **Email EDD:** bim.equissa@baffinland.com **Email COA:** environment.labresults@baffinland.com	**Turn around Time:** Routine (R) **Sampler 1:** AG **Sampler 2:** JM **Sampler 3:** ET	**ALS Quote #:** WT2020BIMC1000001 **ALS PO #:** 4500156571	**Lab Work Order #** (lab use only): l

Environmental Division
Waterloo
Work Order Reference
WT2525447
Telephone : +1 519 886 6910

Sample Details				Field Data		Ana												
Sample ID (sys_sample_code)	Location (sys_loc_code)	Sample Date and Time	Matrix			Total # of Containers	ALS_AEMP (SED)	E440 & E510	TOC									
SL-SHAL-2C_2025-07-05	SL-SHAL-2C	7/5/2025 10:10:00 AM	SE			1	X	X	X									
SL-SHAL-2E_2025-07-05	SL-SHAL-2E	7/5/2025 10:45:00 AM	SE			1	X	X	X									
SL-SHAL-2A_2025-07-05	SL-SHAL-2A	7/5/2025 11:20:00 AM	SE			1	X	X	X									
SL-DEEP-1C_2025-07-05	SL-DEEP-1C	7/5/2025 1:55:00 PM	SE			1	X	X	X									
SL-SHAL-1D_2025-07-05	SL-SHAL-1D	7/5/2025 3:20:00 PM	SE			1	X	X	X									
SL-SHAL-1B_2025-07-05	SL-SHAL-1B	7/5/2025 4:05:00 PM	SE			1	X	X	X									
SL-SHAL-1A_2025-07-06	SL-SHAL-1A	7/6/2025 2:20:00 PM	SE			1	X	X	X									
SL-SHAL-2D_2025-07-07	SL-SHAL-2D	7/7/2025 11:40:00 AM	SE			1	X	X	X									

Baffinland

Sample Details				Field Data		Analysis Requested												
Sample ID (sys_sample_code)	Location (sys_loc_code)	Sample Date and Time	Matrix			Total # of Containers	ALS_AEMP (SED)	E440 & E510	TOC									
SL-SHAL-2B_2025-07-07	SL-SHAL-2B	7/7/2025 12:35:00 PM	SE			1	X	X	X									
SL-DEEP-1B_2025-07-07	SL-DEEP-1B	7/7/2025 1:15:00 PM	SE			1	X	X	X									
SL-DEEP-1A_2025-07-07	SL-DEEP-1A	7/7/2025 2:38:00 PM	SE			1	X	X	X									
SL-SHAL-1E_2025-07-08	SL-SHAL-1E	7/8/2025 10:30:00 AM	SE			1	X	X	X									
SL-DEEP-1D_2025-07-08	SL-DEEP-1D	7/8/2025 1:10:00 PM	SE			1	X	X	X									
SL-SHAL-1C_2025-07-08	SL-SHAL-1C	7/8/2025 3:15:00 PM	SE			1	X	X	X									
SL-DEEP-1E_2025-07-09	SL-DEEP-1E	7/9/2025 8:35:00 AM	SE			1	X	X	X									

Relinquished by:	Bradley Rasmussen	**Date:**	7/9/2025 1:24:00 PM
Additional Comments	Sample mass is priority. Samples with insufficient mass should be combined. If there is insufficient sample mass from traps for individual trap chemistry those samples with inadequate mass should be combined with others from the same station to create 1 sample for chemistry. The other samples that have enough mass will be run as-is, after sample weight has been measured. Please make note if samples are combined in the data provided. Note from Rick Hawthorne: "We'll likely do the same as last year, with the caveat of the addition of TOC. The reporting of the metals and TOC would fall under special request again. On the report, we'll highlight the deviation denoting that the reportables were from the leftover sediment/filters from the Sediment Trap analysis method. I can communicate with BIM how we proceed once they arrive. If it is anything like last year we reported the metallics on a separate file entirely once the Traps were done as a special handling and reporting considerations."		
Initial Shipment Reception (lab use only)		**Final Shipment Reception** (lab use only)	

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	:	**WT2536082**		
Client	:	**Baffinland Iron Mines Corporation**	Laboratory	: ALS Environmental - Waterloo
Contact	:	Environmental Lab Results	Account Manager	: Rick Hawthorne
Address	:	360 Oakville Place Dr Suite 300 Oakville Ontario Canada L6H 6K8	Address	: 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	----	Telephone	: +1 519 886 6910
Project	:	AEMP FALL SEDIMENT	Date Samples Received	: 20-Nov-2025 11:45
PO	:	4500156571	Date Analysis Commenced	: 23-Dec-2025
C-O-C number	:	25 09 26_AEMP FALL SEDIMENT	Issue Date	: 31-Dec-2025 12:18
Sampler	:	LG/JM/RR		
Site	:	----		
Quote number	:	2024-2025 Scope of Work		
No. of samples received	:	16		
No. of samples analysed	:	16		

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
- Guideline Comparison

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*
Greg Pokocky	Manager - Inorganics	Inorganics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Metals, Waterloo, Ontario
Travis Peel	Laboratory Analyst	Centralized Prep, Waterloo, Ontario

No Breaches Found

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.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key: LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
%	percent
mg/kg	milligrams per kilogram

>: greater than.
<: less than.

Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Qualifiers

Qualifier	Description
DLIS	Detection Limit Adjusted due to insufficient sample.

Analytical Results Evaluation

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-DEEP-IC_2025-09-25 ----	SL-DEEP-ID_2025-09-25 ----	SL-DEEP-IA_2025-09-25 ----	SL-DEEP-IE_2025-09-25 ----	SL-DEEP-IB_2025-09-25 ----	SL-SHAL-1D_2025-09-25 ----	SL-SHAL-1E_2025-09-25 ----
				Client sampling date / time	25-Sep-2025 10:30	25-Sep-2025 10:55	25-Sep-2025 11:00	25-Sep-2025 11:10	25-Sep-2025 11:15	25-Sep-2025 12:25	25-Sep-2025 12:25
				Sub-Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
					WT2536082-001	WT2536082-002	WT2536082-003	WT2536082-004	WT2536082-005	WT2536082-006	WT2536082-007
					Result	Result	Result	Result	Result	Result	Result
Sample Preparation											
Dummy analyte	----	EP357/WT	-		Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised
Metals											
Aluminum	7429-90-5	E440/WT	mg/kg		28500	29800	29200	28500	27600	28800	30300
Antimony	7440-36-0	E440/WT	mg/kg		0.35	0.13	0.13	0.75	0.13	0.30	0.17
Arsenic	7440-38-2	E440/WT	mg/kg		6.20	5.31	5.17	5.05	4.89	5.45	5.44
Barium	7440-39-3	E440/WT	mg/kg		143	144	149	151	137	147	150
Beryllium	7440-41-7	E440/WT	mg/kg		1.24	1.25	1.21	1.29	1.17	1.17	1.26
Bismuth	7440-69-9	E440/WT	mg/kg		0.52	0.50	0.47	0.47	0.47	0.48	0.52
Boron	7440-42-8	E440/WT	mg/kg		298	253	289	275	261	221	357
Cadmium	7440-43-9	E440/WT	mg/kg		0.487	0.551	0.655	0.570	0.523	0.435	0.552
Calcium	7440-70-2	E440/WT	mg/kg		9120	8970	9450	9320	9320	7980	9300
Chromium	7440-47-3	E440/WT	mg/kg		126	91.2	90.6	91.8	103	90.7	86.4
Cobalt	7440-48-4	E440/WT	mg/kg		20.9	21.5	21.3	21.4	20.5	21.8	21.1
Copper	7440-50-8	E440/WT	mg/kg		67.9	104	47.1	47.8	45.3	49.7	47.7
Iron	7439-89-6	E440/WT	mg/kg		91600	80200	80800	75700	74100	123000	93100
Lead	7439-92-1	E440/WT	mg/kg		23.1	23.9	23.2	23.5	23.5	21.8	22.7
Lithium	7439-93-2	E440/WT	mg/kg		43.2	47.3	44.0	47.0	43.6	41.4	43.5
Magnesium	7439-95-4	E440/WT	mg/kg		21500	22900	22300	21700	21300	21800	22200

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-DEEP-IC_2025-09-25 ----	SL-DEEP-ID_2025-09-25 ----	SL-DEEP-IA_2025-09-25 ----	SL-DEEP-IE_2025-09-25 ----	SL-DEEP-IB_2025-09-25 ----	SL-SHAL-1D_2025-09-25 ----	SL-SHAL-1E_2025-09-25 ----
				Client sampling date / time	25-Sep-2025 10:30	25-Sep-2025 10:55	25-Sep-2025 11:00	25-Sep-2025 11:10	25-Sep-2025 11:15	25-Sep-2025 12:25	25-Sep-2025 12:25
				Sub-Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
					WT2536082-001	WT2536082-002	WT2536082-003	WT2536082-004	WT2536082-005	WT2536082-006	WT2536082-007
					Result	Result	Result	Result	Result	Result	Result
Metals											
Manganese	7439-96-5	E440/WT	mg/kg		1260	1440	1770	1920	1490	1570	1490
Mercury	7439-97-6	E510/WT	mg/kg		0.0307	0.0240	0.0178	0.0187	0.0193	0.0164	0.0183
Molybdenum	7439-98-7	E440/WT	mg/kg		8.08	3.66	3.89	3.72	3.45	8.93	4.92
Nickel	7440-02-0	E440/WT	mg/kg		74.7	75.1	74.8	75.2	72.3	71.1	71.4
Phosphorus	7723-14-0	E440/WT	mg/kg		715	751	784	759	748	710	712
Potassium	7440-09-7	E440/WT	mg/kg		6780	7020	6990	7160	6950	6780	7120
Selenium	7782-49-2	E440/WT	mg/kg		0.45	0.52	0.51	0.50	0.44	0.64	0.60
Silver	7440-22-4	E440/WT	mg/kg		0.21	0.28	0.19	0.19	0.19	0.19	0.18
Sodium	7440-23-5	E440/WT	mg/kg		424	434	415	434	395	372	390
Strontium	7440-24-6	E440/WT	mg/kg		22.0	20.9	22.7	22.1	21.2	19.1	23.8
Sulfur	7704-34-9	E440/WT	mg/kg		<1000	<1000	<1000	<1000	<1000	<1000	<1100 DLIS
Thallium	7440-28-0	E440/WT	mg/kg		0.506	0.517	0.517	0.525	0.507	0.473	0.500
Tin	7440-31-5	E440/WT	mg/kg		3.3	3.1	2.7	<2.0	<2.0	3.1	<2.3 DLIS
Titanium	7440-32-6	E440/WT	mg/kg		1520	1620	1600	1600	1580	1490	1560
Tungsten	7440-33-7	E440/WT	mg/kg		0.63	0.62	0.63	0.65	0.64	0.83	0.87
Uranium	7440-61-1	E440/WT	mg/kg		7.91	6.72	6.80	7.16	7.00	10.2	7.38
Vanadium	7440-62-2	E440/WT	mg/kg		59.4	62.5	60.8	61.4	59.7	56.7	58.1
Zinc	7440-66-6	E440/WT	mg/kg		172	105	114	105	108	287	118
Zirconium	7440-67-7	E440/WT	mg/kg		23.2	20.0	21.3	22.1	21.3	18.2	19.5

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-DEEP-IC_2025-09-25 ----	SL-DEEP-ID_2025-09-25 ----	SL-DEEP-IA_2025-09-25 ----	SL-DEEP-IE_2025-09-25 ----	SL-DEEP-IB_2025-09-25 ----	SL-SHAL-1D_2025-09-25 ----	SL-SHAL-1E_2025-09-25 ----
				Client sampling date / time	25-Sep-2025 10:30	25-Sep-2025 10:55	25-Sep-2025 11:00	25-Sep-2025 11:10	25-Sep-2025 11:15	25-Sep-2025 12:25	25-Sep-2025 12:25
				Sub-Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
					WT2536082-001	WT2536082-002	WT2536082-003	WT2536082-004	WT2536082-005	WT2536082-006	WT2536082-007
					Result	Result	Result	Result	Result	Result	Result
Aggregate Organics											
Carbon, total organic [TOC]	----	E357/WT	%		1.33	1.34	1.31	1.15	1.35	1.50	1.57
Organic matter	----	E357/WT	%		2.29	2.31	2.26	1.98	2.33	2.59	2.71

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

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-SHAL-1A_2025-09-25 ----	SL-SHAL-1B_2025-09-25 ----	SL-SHAL-IC_2025-09-25 ----	SL-SHAL-2C_2025-09-25 ----	SL-SHAL-2B_2025-09-25 ----	SL-SHAL-2A_2025-09-25 ----	SL-SHAL-2E_2025-09-26 ----
				Client sampling date / time	25-Sep-2025 12:30	25-Sep-2025 12:45	25-Sep-2025 12:45	25-Sep-2025 13:20	25-Sep-2025 13:45	25-Sep-2025 14:45	26-Sep-2025 15:30
				Sub-Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
					WT2536082-008	WT2536082-009	WT2536082-010	WT2536082-011	WT2536082-012	WT2536082-013	WT2536082-014
					Result	Result	Result	Result	Result	Result	Result
Sample Preparation											
Dummy analyte	----	EP357/WT	-		Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised
Metals											
Aluminum	7429-90-5	E440/WT	mg/kg		27300	29400	30500	22800	24200	23500	24400
Antimony	7440-36-0	E440/WT	mg/kg		0.15	0.14	0.30	0.23	0.15	0.14	0.14
Arsenic	7440-38-2	E440/WT	mg/kg		4.92	5.17	5.75	4.78	4.89	4.62	5.09
Barium	7440-39-3	E440/WT	mg/kg		146	148	149	117	124	118	116
Beryllium	7440-41-7	E440/WT	mg/kg		1.13	1.18	1.19	0.99	1.02	1.01	1.02
Bismuth	7440-69-9	E440/WT	mg/kg		0.49	0.51	0.49	0.43	0.46	0.46	0.44
Boron	7440-42-8	E440/WT	mg/kg		303	311	276	108	232	132	182

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-SHAL-1A_2025-09-25 ----	SL-SHAL-1B_2025-09-25 ----	SL-SHAL-IC_2025-09-25 ----	SL-SHAL-2C_2025-09-25 ----	SL-SHAL-2B_2025-09-25 ----	SL-SHAL-2A_2025-09-25 ----	SL-SHAL-2E_2025-09-26 ----
				Client sampling date / time	25-Sep-2025 12:30	25-Sep-2025 12:45	25-Sep-2025 12:45	25-Sep-2025 13:20	25-Sep-2025 13:45	25-Sep-2025 14:45	26-Sep-2025 15:30
				Sub-Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
					WT2536082-008	WT2536082-009	WT2536082-010	WT2536082-011	WT2536082-012	WT2536082-013	WT2536082-014
					Result	Result	Result	Result	Result	Result	Result
Metals											
Cadmium	7440-43-9	E440/WT	mg/kg		0.613	0.604	0.529	0.611	0.675	0.650	0.435
Calcium	7440-70-2	E440/WT	mg/kg		7970	8670	9010	7820	8590	7350	8980
Chromium	7440-47-3	E440/WT	mg/kg		76.7	82.1	96.3	87.0	77.7	72.4	80.7
Cobalt	7440-48-4	E440/WT	mg/kg		19.4	20.5	21.0	18.6	19.0	18.3	19.4
Copper	7440-50-8	E440/WT	mg/kg		43.6	44.8	55.1	43.6	41.1	40.3	39.2
Iron	7439-89-6	E440/WT	mg/kg		86300	79400	92300	105000	88700	85600	101000
Lead	7439-92-1	E440/WT	mg/kg		21.1	21.9	21.5	18.4	18.8	18.1	19.0
Lithium	7439-93-2	E440/WT	mg/kg		38.6	42.9	41.4	33.2	36.0	33.7	34.5
Magnesium	7439-95-4	E440/WT	mg/kg		20300	21300	22300	18700	19100	17900	19900
Manganese	7439-96-5	E440/WT	mg/kg		1480	1520	1610	1430	1610	1460	1220
Mercury	7439-97-6	E510/WT	mg/kg		0.0184	0.0170	0.0173	0.0139	0.0175	0.0167	0.0130
Molybdenum	7439-98-7	E440/WT	mg/kg		4.96	4.18	6.16	6.23	4.04	4.38	4.06
Nickel	7440-02-0	E440/WT	mg/kg		66.1	70.2	71.6	66.5	68.1	65.5	68.7
Phosphorus	7723-14-0	E440/WT	mg/kg		701	685	753	633	655	631	710
Potassium	7440-09-7	E440/WT	mg/kg		6590	7060	7180	5470	5650	5460	5850
Selenium	7782-49-2	E440/WT	mg/kg		0.57	0.50	0.58	0.52	0.57	0.58	0.52
Silver	7440-22-4	E440/WT	mg/kg		0.17	0.18	0.19	0.16	0.14	0.14	0.16
Sodium	7440-23-5	E440/WT	mg/kg		351	373	379	293	326	297	319
Strontium	7440-24-6	E440/WT	mg/kg		21.0	21.4	21.3	15.5	18.1	15.3	18.9

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-SHAL-1A_2025-09-25 ----	SL-SHAL-1B_2025-09-25 ----	SL-SHAL-IC_2025-09-25 ----	SL-SHAL-2C_2025-09-25 ----	SL-SHAL-2B_2025-09-25 ----	SL-SHAL-2A_2025-09-25 ----	SL-SHAL-2E_2025-09-26 ----
				Client sampling date / time	25-Sep-2025 12:30	25-Sep-2025 12:45	25-Sep-2025 12:45	25-Sep-2025 13:20	25-Sep-2025 13:45	25-Sep-2025 14:45	26-Sep-2025 15:30
				Sub-Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
					WT2536082-008	WT2536082-009	WT2536082-010	WT2536082-011	WT2536082-012	WT2536082-013	WT2536082-014
					Result	Result	Result	Result	Result	Result	Result
Metals											
Sulfur	7704-34-9	E440/WT	mg/kg		<1000	<1100 DLIS	<1200 DLIS	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	mg/kg		0.469	0.460	0.479	0.400	0.407	0.399	0.402
Tin	7440-31-5	E440/WT	mg/kg		<2.0	<2.2 DLIS	6.8	2.4	<2.0	<2.0	2.4
Titanium	7440-32-6	E440/WT	mg/kg		1390	1510	1580	1240	1250	1190	1350
Tungsten	7440-33-7	E440/WT	mg/kg		0.81	0.83	0.85	0.76	0.72	0.71	0.74
Uranium	7440-61-1	E440/WT	mg/kg		8.00	6.98	7.33	7.92	8.18	7.59	7.22
Vanadium	7440-62-2	E440/WT	mg/kg		53.0	56.3	58.3	47.5	48.9	46.7	51.1
Zinc	7440-66-6	E440/WT	mg/kg		102	121	152	120	96.5	95.0	94.1
Zirconium	7440-67-7	E440/WT	mg/kg		16.3	18.8	20.0	15.3	15.3	15.1	15.7
Aggregate Organics											
Carbon, total organic [TOC]	----	E357/WT	%		1.80	2.02	1.44	2.12	2.29	3.12	1.56
Organic matter	----	E357/WT	%		3.10	3.48	2.48	3.65	3.95	5.38	2.69

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

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-SHAL-2D_2025-09-26 ----	Filter Blank ----	----	----	----	----	----
				Client sampling date / time	26-Sep-2025 15:40	26-Sep-2025 00:00	----	----	----	----	----
				Sub-Matrix	Sediment	Sediment	----	----	----	----	----
					WT2536082-015	WT2536082-016	----	----	----	----	----
					Result	Result	----	----	----	----	----
Sample Preparation											
Dummy analyte	----	EP357/WT	-		Not Authorised	----	----	----	----	----	----
Metals											
Aluminum	7429-90-5	E440/WT	mg/kg		25200	31700	----	----	----	----	----
Antimony	7440-36-0	E440/WT	mg/kg		0.13	0.13	----	----	----	----	----
Arsenic	7440-38-2	E440/WT	mg/kg		5.03	6.28	----	----	----	----	----
Barium	7440-39-3	E440/WT	mg/kg		121	220	----	----	----	----	----
Beryllium	7440-41-7	E440/WT	mg/kg		1.02	0.45	----	----	----	----	----
Bismuth	7440-69-9	E440/WT	mg/kg		0.44	<0.20	----	----	----	----	----
Boron	7440-42-8	E440/WT	mg/kg		182	7880	----	----	----	----	----
Cadmium	7440-43-9	E440/WT	mg/kg		0.571	0.038	----	----	----	----	----
Calcium	7440-70-2	E440/WT	mg/kg		7950	60700	----	----	----	----	----
Chromium	7440-47-3	E440/WT	mg/kg		77.6	8.60	----	----	----	----	----
Cobalt	7440-48-4	E440/WT	mg/kg		19.1	0.62	----	----	----	----	----
Copper	7440-50-8	E440/WT	mg/kg		41.4	2.40	----	----	----	----	----
Iron	7439-89-6	E440/WT	mg/kg		93900	874	----	----	----	----	----
Lead	7439-92-1	E440/WT	mg/kg		19.4	10.7	----	----	----	----	----
Lithium	7439-93-2	E440/WT	mg/kg		35.3	60.2	----	----	----	----	----
Magnesium	7439-95-4	E440/WT	mg/kg		18600	8010	----	----	----	----	----
Manganese	7439-96-5	E440/WT	mg/kg		1340	19.7	----	----	----	----	----
Mercury	7439-97-6	E510/WT	mg/kg		0.0161	<0.0050	----	----	----	----	----

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	SL-SHAL-2D_2025-09-26 ----	Filter Blank ----	----	----	----	----	----
				Client sampling date / time	26-Sep-2025 15:40	26-Sep-2025 00:00	----	----	----	----	----
				Sub-Matrix	Sediment	Sediment	----	----	----	----	----
					WT2536082-015	WT2536082-016	----	----	----	----	----
					Result	Result	----	----	----	----	----
Metals											
Molybdenum	7439-98-7	E440/WT	mg/kg		4.12	2.73	----	----	----	----	----
Nickel	7440-02-0	E440/WT	mg/kg		67.1	2.76	----	----	----	----	----
Phosphorus	7723-14-0	E440/WT	mg/kg		656	86	----	----	----	----	----
Potassium	7440-09-7	E440/WT	mg/kg		5890	620	----	----	----	----	----
Selenium	7782-49-2	E440/WT	mg/kg		0.54	<0.20	----	----	----	----	----
Silver	7440-22-4	E440/WT	mg/kg		0.15	<0.10	----	----	----	----	----
Sodium	7440-23-5	E440/WT	mg/kg		330	591	----	----	----	----	----
Strontium	7440-24-6	E440/WT	mg/kg		17.6	188	----	----	----	----	----
Sulfur	7704-34-9	E440/WT	mg/kg		<1000	<1000	----	----	----	----	----
Thallium	7440-28-0	E440/WT	mg/kg		0.436	<0.050	----	----	----	----	----
Tin	7440-31-5	E440/WT	mg/kg		6.4	<2.0	----	----	----	----	----
Titanium	7440-32-6	E440/WT	mg/kg		1310	352	----	----	----	----	----
Tungsten	7440-33-7	E440/WT	mg/kg		0.68	<0.50	----	----	----	----	----
Uranium	7440-61-1	E440/WT	mg/kg		7.47	1.41	----	----	----	----	----
Vanadium	7440-62-2	E440/WT	mg/kg		50.4	11.0	----	----	----	----	----
Zinc	7440-66-6	E440/WT	mg/kg		101	11.3	----	----	----	----	----
Zirconium	7440-67-7	E440/WT	mg/kg		16.3	19.5	----	----	----	----	----
Aggregate Organics											
Carbon, total organic [TOC]	----	E357/WT	%		2.20	----	----	----	----	----	----
Organic matter	----	E357/WT	%		3.79	----	----	----	----	----	----

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

Summary of Guideline Limits

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2536082**			
Client	:	**Baffinland Iron Mines Corporation**	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Environmental Lab Results	Account Manager	:	Rick Hawthorne
Address	:	360 Oakville Place Dr Suite 300 Oakville Ontario Canada L6H 6K8	Address	:	60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	----	E-mail	:	Rick.Hawthorne@ALSGlobal.com
Project	:	AEMP FALL SEDIMENT	Telephone	:	+1 519 886 6910
PO	:	4500156571	Date Samples Received	:	20-Nov-2025 11:45
C-O-C number	:	25 09 26_AEMP FALL SEDIMENT	Date Analysis Commenced	:	23-Dec-2025
Sampler	:	LG/JM/RR	Issue Date	:	31-Dec-2025 12:18
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	16			
No. of samples analysed	:	16			

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

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*
Greg Pokocky	Manager - Inorganics	Inorganics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Metals, Waterloo, Ontario
Travis Peel	Laboratory Analyst	Centralized Prep, Waterloo, Ontario

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

<: 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
DLIS	Detection Limit Adjusted due to insufficient sample.

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SL-DEEP-IC_2025-09-25 ----	SL-DEEP-ID_2025-09-25 ----	SL-DEEP-IA_2025-09-25 ----	SL-DEEP-IE_2025-09-25 ----	SL-DEEP-IB_2025-09-25 ----
					Client sampling date / time	25-Sep-2025 10:30	25-Sep-2025 10:55	25-Sep-2025 11:00	25-Sep-2025 11:10	25-Sep-2025 11:15
						WT2536082-001	WT2536082-002	WT2536082-003	WT2536082-004	WT2536082-005
						Result	Result	Result	Result	Result
Sample Preparation										
Dummy analyte	----	EP357/WT	1	-		Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		28500	29800	29200	28500	27600
Antimony	7440-36-0	E440/WT	0.10	mg/kg		0.35	0.13	0.13	0.75	0.13
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		6.20	5.31	5.17	5.05	4.89
Barium	7440-39-3	E440/WT	0.50	mg/kg		143	144	149	151	137
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		1.24	1.25	1.21	1.29	1.17
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		0.52	0.50	0.47	0.47	0.47
Boron	7440-42-8	E440/WT	5.0	mg/kg		298	253	289	275	261
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		0.487	0.551	0.655	0.570	0.523
Calcium	7440-70-2	E440/WT	50	mg/kg		9120	8970	9450	9320	9320
Chromium	7440-47-3	E440/WT	0.50	mg/kg		126	91.2	90.6	91.8	103
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		20.9	21.5	21.3	21.4	20.5
Copper	7440-50-8	E440/WT	0.50	mg/kg		67.9	104	47.1	47.8	45.3
Iron	7439-89-6	E440/WT	50	mg/kg		91600	80200	80800	75700	74100
Lead	7439-92-1	E440/WT	0.50	mg/kg		23.1	23.9	23.2	23.5	23.5
Lithium	7439-93-2	E440/WT	2.0	mg/kg		43.2	47.3	44.0	47.0	43.6
Magnesium	7439-95-4	E440/WT	20	mg/kg		21500	22900	22300	21700	21300
Manganese	7439-96-5	E440/WT	1.0	mg/kg		1260	1440	1770	1920	1490
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		0.0307	0.0240	0.0178	0.0187	0.0193

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SL-DEEP-IC_2025-09-25 ----	SL-DEEP-ID_2025-09-25 ----	SL-DEEP-IA_2025-09-25 ----	SL-DEEP-IE_2025-09-25 ----	SL-DEEP-IB_2025-09-25 ----
					Client sampling date / time	25-Sep-2025 10:30	25-Sep-2025 10:55	25-Sep-2025 11:00	25-Sep-2025 11:10	25-Sep-2025 11:15
						WT2536082-001	WT2536082-002	WT2536082-003	WT2536082-004	WT2536082-005
						Result	Result	Result	Result	Result
Metals										
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		8.08	3.66	3.89	3.72	3.45
Nickel	7440-02-0	E440/WT	0.50	mg/kg		74.7	75.1	74.8	75.2	72.3
Phosphorus	7723-14-0	E440/WT	50	mg/kg		715	751	784	759	748
Potassium	7440-09-7	E440/WT	100	mg/kg		6780	7020	6990	7160	6950
Selenium	7782-49-2	E440/WT	0.20	mg/kg		0.45	0.52	0.51	0.50	0.44
Silver	7440-22-4	E440/WT	0.10	mg/kg		0.21	0.28	0.19	0.19	0.19
Sodium	7440-23-5	E440/WT	50	mg/kg		424	434	415	434	395
Strontium	7440-24-6	E440/WT	0.50	mg/kg		22.0	20.9	22.7	22.1	21.2
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		0.506	0.517	0.517	0.525	0.507
Tin	7440-31-5	E440/WT	2.0	mg/kg		3.3	3.1	2.7	<2.0	<2.0
Titanium	7440-32-6	E440/WT	1.0	mg/kg		1520	1620	1600	1600	1580
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		0.63	0.62	0.63	0.65	0.64
Uranium	7440-61-1	E440/WT	0.050	mg/kg		7.91	6.72	6.80	7.16	7.00
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		59.4	62.5	60.8	61.4	59.7
Zinc	7440-66-6	E440/WT	2.0	mg/kg		172	105	114	105	108
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		23.2	20.0	21.3	22.1	21.3
Aggregate Organics										
Carbon, total organic [TOC]	----	E357/WT	0.10	%		1.33	1.34	1.31	1.15	1.35
Organic matter	----	E357/WT	0.20	%		2.29	2.31	2.26	1.98	2.33

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

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SL-SHAL-1D_2025-09-25 ----	SL-SHAL-1E_2025-09-25 ----	SL-SHAL-1A_2025-09-25 ----	SL-SHAL-1B_2025-09-25 ----	SL-SHAL-IC_2025-09-25 ----
					Client sampling date / time	25-Sep-2025 12:25	25-Sep-2025 12:25	25-Sep-2025 12:30	25-Sep-2025 12:45	25-Sep-2025 12:45
						WT2536082-006	WT2536082-007	WT2536082-008	WT2536082-009	WT2536082-010
						Result	Result	Result	Result	Result
Sample Preparation										
Dummy analyte	----	EP357/WT	1	-		Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		28800	30300	27300	29400	30500
Antimony	7440-36-0	E440/WT	0.10	mg/kg		0.30	0.17	0.15	0.14	0.30
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		5.45	5.44	4.92	5.17	5.75
Barium	7440-39-3	E440/WT	0.50	mg/kg		147	150	146	148	149
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		1.17	1.26	1.13	1.18	1.19
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		0.48	0.52	0.49	0.51	0.49
Boron	7440-42-8	E440/WT	5.0	mg/kg		221	357	303	311	276
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		0.435	0.552	0.613	0.604	0.529
Calcium	7440-70-2	E440/WT	50	mg/kg		7980	9300	7970	8670	9010
Chromium	7440-47-3	E440/WT	0.50	mg/kg		90.7	86.4	76.7	82.1	96.3
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		21.8	21.1	19.4	20.5	21.0
Copper	7440-50-8	E440/WT	0.50	mg/kg		49.7	47.7	43.6	44.8	55.1
Iron	7439-89-6	E440/WT	50	mg/kg		123000	93100	86300	79400	92300
Lead	7439-92-1	E440/WT	0.50	mg/kg		21.8	22.7	21.1	21.9	21.5
Lithium	7439-93-2	E440/WT	2.0	mg/kg		41.4	43.5	38.6	42.9	41.4
Magnesium	7439-95-4	E440/WT	20	mg/kg		21800	22200	20300	21300	22300
Manganese	7439-96-5	E440/WT	1.0	mg/kg		1570	1490	1480	1520	1610
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		0.0164	0.0183	0.0184	0.0170	0.0173
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		8.93	4.92	4.96	4.18	6.16

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SL-SHAL-1D_2025-09-25 ----	SL-SHAL-1E_2025-09-25 ----	SL-SHAL-1A_2025-09-25 ----	SL-SHAL-1B_2025-09-25 ----	SL-SHAL-IC_2025-09-25 ----
					Client sampling date / time	25-Sep-2025 12:25	25-Sep-2025 12:25	25-Sep-2025 12:30	25-Sep-2025 12:45	25-Sep-2025 12:45
						WT2536082-006	WT2536082-007	WT2536082-008	WT2536082-009	WT2536082-010
						Result	Result	Result	Result	Result
Metals										
Nickel	7440-02-0	E440/WT	0.50	mg/kg		71.1	71.4	66.1	70.2	71.6
Phosphorus	7723-14-0	E440/WT	50	mg/kg		710	712	701	685	753
Potassium	7440-09-7	E440/WT	100	mg/kg		6780	7120	6590	7060	7180
Selenium	7782-49-2	E440/WT	0.20	mg/kg		0.64	0.60	0.57	0.50	0.58
Silver	7440-22-4	E440/WT	0.10	mg/kg		0.19	0.18	0.17	0.18	0.19
Sodium	7440-23-5	E440/WT	50	mg/kg		372	390	351	373	379
Strontium	7440-24-6	E440/WT	0.50	mg/kg		19.1	23.8	21.0	21.4	21.3
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1100 DLIS	<1000	<1100 DLIS	<1200 DLIS
Thallium	7440-28-0	E440/WT	0.050	mg/kg		0.473	0.500	0.469	0.460	0.479
Tin	7440-31-5	E440/WT	2.0	mg/kg		3.1	<2.3 DLIS	<2.0	<2.2 DLIS	6.8
Titanium	7440-32-6	E440/WT	1.0	mg/kg		1490	1560	1390	1510	1580
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		0.83	0.87	0.81	0.83	0.85
Uranium	7440-61-1	E440/WT	0.050	mg/kg		10.2	7.38	8.00	6.98	7.33
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		56.7	58.1	53.0	56.3	58.3
Zinc	7440-66-6	E440/WT	2.0	mg/kg		287	118	102	121	152
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		18.2	19.5	16.3	18.8	20.0
Aggregate Organics										
Carbon, total organic [TOC]	----	E357/WT	0.10	%		1.50	1.57	1.80	2.02	1.44
Organic matter	----	E357/WT	0.20	%		2.59	2.71	3.10	3.48	2.48

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

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SL-SHAL-2C_2025-09-25 ----	SL-SHAL-2B_2025-09-25 ----	SL-SHAL-2A_2025-09-25 ----	SL-SHAL-2E_2025-09-26 ----	SL-SHAL-2D_2025-09-26 ----
					Client sampling date / time	25-Sep-2025 13:20	25-Sep-2025 13:45	25-Sep-2025 14:45	26-Sep-2025 15:30	26-Sep-2025 15:40
						WT2536082-011	WT2536082-012	WT2536082-013	WT2536082-014	WT2536082-015
						Result	Result	Result	Result	Result
Sample Preparation										
Dummy analyte	----	EP357/WT	1	-		Not Authorised	Not Authorised	Not Authorised	Not Authorised	Not Authorised
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg		22800	24200	23500	24400	25200
Antimony	7440-36-0	E440/WT	0.10	mg/kg		0.23	0.15	0.14	0.14	0.13
Arsenic	7440-38-2	E440/WT	0.10	mg/kg		4.78	4.89	4.62	5.09	5.03
Barium	7440-39-3	E440/WT	0.50	mg/kg		117	124	118	116	121
Beryllium	7440-41-7	E440/WT	0.10	mg/kg		0.99	1.02	1.01	1.02	1.02
Bismuth	7440-69-9	E440/WT	0.20	mg/kg		0.43	0.46	0.46	0.44	0.44
Boron	7440-42-8	E440/WT	5.0	mg/kg		108	232	132	182	182
Cadmium	7440-43-9	E440/WT	0.020	mg/kg		0.611	0.675	0.650	0.435	0.571
Calcium	7440-70-2	E440/WT	50	mg/kg		7820	8590	7350	8980	7950
Chromium	7440-47-3	E440/WT	0.50	mg/kg		87.0	77.7	72.4	80.7	77.6
Cobalt	7440-48-4	E440/WT	0.10	mg/kg		18.6	19.0	18.3	19.4	19.1
Copper	7440-50-8	E440/WT	0.50	mg/kg		43.6	41.1	40.3	39.2	41.4
Iron	7439-89-6	E440/WT	50	mg/kg		105000	88700	85600	101000	93900
Lead	7439-92-1	E440/WT	0.50	mg/kg		18.4	18.8	18.1	19.0	19.4
Lithium	7439-93-2	E440/WT	2.0	mg/kg		33.2	36.0	33.7	34.5	35.3
Magnesium	7439-95-4	E440/WT	20	mg/kg		18700	19100	17900	19900	18600
Manganese	7439-96-5	E440/WT	1.0	mg/kg		1430	1610	1460	1220	1340
Mercury	7439-97-6	E510/WT	0.0050	mg/kg		0.0139	0.0175	0.0167	0.0130	0.0161
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg		6.23	4.04	4.38	4.06	4.12

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SL-SHAL-2C_2025-09-25 ----	SL-SHAL-2B_2025-09-25 ----	SL-SHAL-2A_2025-09-25 ----	SL-SHAL-2E_2025-09-26 ----	SL-SHAL-2D_2025-09-26 ----
					Client sampling date / time	25-Sep-2025 13:20	25-Sep-2025 13:45	25-Sep-2025 14:45	26-Sep-2025 15:30	26-Sep-2025 15:40
						WT2536082-011	WT2536082-012	WT2536082-013	WT2536082-014	WT2536082-015
						Result	Result	Result	Result	Result
Metals										
Nickel	7440-02-0	E440/WT	0.50	mg/kg		66.5	68.1	65.5	68.7	67.1
Phosphorus	7723-14-0	E440/WT	50	mg/kg		633	655	631	710	656
Potassium	7440-09-7	E440/WT	100	mg/kg		5470	5650	5460	5850	5890
Selenium	7782-49-2	E440/WT	0.20	mg/kg		0.52	0.57	0.58	0.52	0.54
Silver	7440-22-4	E440/WT	0.10	mg/kg		0.16	0.14	0.14	0.16	0.15
Sodium	7440-23-5	E440/WT	50	mg/kg		293	326	297	319	330
Strontium	7440-24-6	E440/WT	0.50	mg/kg		15.5	18.1	15.3	18.9	17.6
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	<1000	<1000	<1000	<1000
Thallium	7440-28-0	E440/WT	0.050	mg/kg		0.400	0.407	0.399	0.402	0.436
Tin	7440-31-5	E440/WT	2.0	mg/kg		2.4	<2.0	<2.0	2.4	6.4
Titanium	7440-32-6	E440/WT	1.0	mg/kg		1240	1250	1190	1350	1310
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		0.76	0.72	0.71	0.74	0.68
Uranium	7440-61-1	E440/WT	0.050	mg/kg		7.92	8.18	7.59	7.22	7.47
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		47.5	48.9	46.7	51.1	50.4
Zinc	7440-66-6	E440/WT	2.0	mg/kg		120	96.5	95.0	94.1	101
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		15.3	15.3	15.1	15.7	16.3
Aggregate Organics										
Carbon, total organic [TOC]	----	E357/WT	0.10	%		2.12	2.29	3.12	1.56	2.20
Organic matter	----	E357/WT	0.20	%		3.65	3.95	5.38	2.69	3.79

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

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Filter Blank ----	----	----	----	----
					Client sampling date / time	26-Sep-2025 00:00	----	----	----	----
					WT2536082-016	----	----	----	----	----
					Result	----	----	----	----	----
Metals										
Aluminum	7429-90-5	E440/WT	50	mg/kg	31700	----	----	----	----
Antimony	7440-36-0	E440/WT	0.10	mg/kg	0.13	----	----	----	----
Arsenic	7440-38-2	E440/WT	0.10	mg/kg	6.28	----	----	----	----
Barium	7440-39-3	E440/WT	0.50	mg/kg	220	----	----	----	----
Beryllium	7440-41-7	E440/WT	0.10	mg/kg	0.45	----	----	----	----
Bismuth	7440-69-9	E440/WT	0.20	mg/kg	<0.20	----	----	----	----
Boron	7440-42-8	E440/WT	5.0	mg/kg	7880	----	----	----	----
Cadmium	7440-43-9	E440/WT	0.020	mg/kg	0.038	----	----	----	----
Calcium	7440-70-2	E440/WT	50	mg/kg	60700	----	----	----	----
Chromium	7440-47-3	E440/WT	0.50	mg/kg	8.60	----	----	----	----
Cobalt	7440-48-4	E440/WT	0.10	mg/kg	0.62	----	----	----	----
Copper	7440-50-8	E440/WT	0.50	mg/kg	2.40	----	----	----	----
Iron	7439-89-6	E440/WT	50	mg/kg	874	----	----	----	----
Lead	7439-92-1	E440/WT	0.50	mg/kg	10.7	----	----	----	----
Lithium	7439-93-2	E440/WT	2.0	mg/kg	60.2	----	----	----	----
Magnesium	7439-95-4	E440/WT	20	mg/kg	8010	----	----	----	----
Manganese	7439-96-5	E440/WT	1.0	mg/kg	19.7	----	----	----	----
Mercury	7439-97-6	E510/WT	0.0050	mg/kg	<0.0050	----	----	----	----
Molybdenum	7439-98-7	E440/WT	0.10	mg/kg	2.73	----	----	----	----
Nickel	7440-02-0	E440/WT	0.50	mg/kg	2.76	----	----	----	----
Phosphorus	7723-14-0	E440/WT	50	mg/kg	86	----	----	----	----

Analytical Results

Sub-Matrix: Sediment
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Filter Blank ----	----	----	----	----
					Client sampling date / time	26-Sep-2025 00:00	----	----	----	----
						WT2536082-016	----	----	----	----
						Result	----	----	----	----
Metals										
Potassium	7440-09-7	E440/WT	100	mg/kg		620	----	----	----	----
Selenium	7782-49-2	E440/WT	0.20	mg/kg		<0.20	----	----	----	----
Silver	7440-22-4	E440/WT	0.10	mg/kg		<0.10	----	----	----	----
Sodium	7440-23-5	E440/WT	50	mg/kg		591	----	----	----	----
Strontium	7440-24-6	E440/WT	0.50	mg/kg		188	----	----	----	----
Sulfur	7704-34-9	E440/WT	1000	mg/kg		<1000	----	----	----	----
Thallium	7440-28-0	E440/WT	0.050	mg/kg		<0.050	----	----	----	----
Tin	7440-31-5	E440/WT	2.0	mg/kg		<2.0	----	----	----	----
Titanium	7440-32-6	E440/WT	1.0	mg/kg		352	----	----	----	----
Tungsten	7440-33-7	E440/WT	0.50	mg/kg		<0.50	----	----	----	----
Uranium	7440-61-1	E440/WT	0.050	mg/kg		1.41	----	----	----	----
Vanadium	7440-62-2	E440/WT	0.20	mg/kg		11.0	----	----	----	----
Zinc	7440-66-6	E440/WT	2.0	mg/kg		11.3	----	----	----	----
Zirconium	7440-67-7	E440/WT	1.0	mg/kg		19.5	----	----	----	----

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

Quality Control Interpretive Report

Work Order	:	**WT2536082**			
Client	:	Baffinland Iron Mines Corporation	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Environmental Lab Results	Account Manager	:	Rick Hawthorne
Address	:	360 Oakville Place Dr Suite 300 Oakville ON Canada L6H 6K8	Address	:	60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	----	Telephone	:	+1 519 886 6910
Project	:	AEMP FALL SEDIMENT	Date Samples Received	:	20-Nov-2025 11:45
PO	:	4500156571	Issue Date	:	31-Dec-2025 12:19
C-O-C number	:	25 09 26_AEMP FALL SEDIMENT			
Sampler	:	LG/JM/RR			
Site	:	----			
Quote number	:	2024-2025 Scope of Work			
No. of samples received	:	16			
No. of samples analysed	:	16			

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 Services 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 Laboratory Control Sample Duplicate (LCSD) outliers occur
- No Matrix Spike outliers occur.
- No Matrix Spike Duplicate (MSD) 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.

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: Soil/Solid

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

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Aggregate Organics : Total Organic Carbon by Wet Oxidation and Titration												
Glass soil jar/Teflon lined cap												
SL-DEEP-IC_2025-09-25	001	2383261	E357	25-Sep-2025	23-Dec-2025	28 days	89 days	× EHTR	23-Dec-2025	28 days	89 days	× EHTR
SL-DEEP-ID_2025-09-25	002	2383261	E357	25-Sep-2025	23-Dec-2025	28 days	89 days	× EHTR	23-Dec-2025	28 days	89 days	× EHTR
SL-DEEP-IA_2025-09-25	003	2383261	E357	25-Sep-2025	23-Dec-2025	28 days	89 days	× EHTR	23-Dec-2025	28 days	89 days	× EHTR
SL-DEEP-IE_2025-09-25	004	2383261	E357	25-Sep-2025	23-Dec-2025	28 days	89 days	× EHTR	23-Dec-2025	28 days	89 days	× EHTR
SL-DEEP-IB_2025-09-25	005	2383261	E357	25-Sep-2025	23-Dec-2025	28 days	89 days	× EHTR	23-Dec-2025	28 days	89 days	× EHTR
SL-SHAL-1D_2025-09-25	006	2383261	E357	25-Sep-2025	23-Dec-2025	28 days	89 days	× EHTR	23-Dec-2025	28 days	89 days	× EHTR
SL-SHAL-1E_2025-09-25	007	2383261	E357	25-Sep-2025	23-Dec-2025	28 days	89 days	× EHTR	23-Dec-2025	28 days	89 days	× EHTR
SL-SHAL-1A_2025-09-25	008	2383261	E357	25-Sep-2025	23-Dec-2025	28 days	89 days	× EHTR	23-Dec-2025	28 days	89 days	× EHTR
SL-SHAL-1B_2025-09-25	009	2383261	E357	25-Sep-2025	23-Dec-2025	28 days	89 days	× EHTR	23-Dec-2025	28 days	89 days	× EHTR
SL-SHAL-IC_2025-09-25	010	2383261	E357	25-Sep-2025	23-Dec-2025	28 days	89 days	× EHTR	23-Dec-2025	28 days	89 days	× EHTR
SL-SHAL-2C_2025-09-25	011	2383261	E357	25-Sep-2025	23-Dec-2025	28 days	89 days	× EHTR	23-Dec-2025	28 days	89 days	× EHTR
SL-SHAL-2B_2025-09-25	012	2383261	E357	25-Sep-2025	23-Dec-2025	28 days	89 days	× EHTR	23-Dec-2025	28 days	89 days	× EHTR
SL-SHAL-2A_2025-09-25	013	2383261	E357	25-Sep-2025	23-Dec-2025	28 days	89 days	× EHTR	23-Dec-2025	28 days	89 days	× EHTR

Matrix: Soil/Solid

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

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Aggregate Organics : Total Organic Carbon by Wet Oxidation and Titration												
Glass soil jar/Teflon lined cap												
SL-SHAL-2E_2025-09-26	014	2383261	E357	26-Sep-2025	23-Dec-2025	28 days	88 days	× EHTR	23-Dec-2025	28 days	88 days	× EHTR
SL-SHAL-2D_2025-09-26	015	2383261	E357	26-Sep-2025	23-Dec-2025	28 days	88 days	× EHTR	23-Dec-2025	28 days	88 days	× EHTR
Metals : Mercury in Soil/Solid by CVAAS												
Glass soil jar/Teflon lined cap												
SL-DEEP-IC_2025-09-25	001	2386632	E510	25-Sep-2025	30-Dec-2025	28 days	96 days	× EHTR	31-Dec-2025	28 days	0 days	✓
SL-DEEP-ID_2025-09-25	002	2386632	E510	25-Sep-2025	30-Dec-2025	28 days	96 days	× EHTR	31-Dec-2025	28 days	0 days	✓
SL-DEEP-IA_2025-09-25	003	2386632	E510	25-Sep-2025	30-Dec-2025	28 days	96 days	× EHTR	31-Dec-2025	28 days	0 days	✓
SL-DEEP-IE_2025-09-25	004	2386632	E510	25-Sep-2025	30-Dec-2025	28 days	96 days	× EHTR	31-Dec-2025	28 days	0 days	✓
SL-DEEP-IB_2025-09-25	005	2386632	E510	25-Sep-2025	30-Dec-2025	28 days	96 days	× EHTR	31-Dec-2025	28 days	0 days	✓
SL-SHAL-1D_2025-09-25	006	2386632	E510	25-Sep-2025	30-Dec-2025	28 days	96 days	× EHTR	31-Dec-2025	28 days	0 days	✓
SL-SHAL-1E_2025-09-25	007	2386632	E510	25-Sep-2025	30-Dec-2025	28 days	96 days	× EHTR	31-Dec-2025	28 days	0 days	✓
SL-SHAL-1A_2025-09-25	008	2386632	E510	25-Sep-2025	30-Dec-2025	28 days	96 days	× EHTR	31-Dec-2025	28 days	0 days	✓
SL-SHAL-1B_2025-09-25	009	2386632	E510	25-Sep-2025	30-Dec-2025	28 days	96 days	× EHTR	31-Dec-2025	28 days	0 days	✓
SL-SHAL-IC_2025-09-25	010	2386632	E510	25-Sep-2025	30-Dec-2025	28 days	96 days	× EHTR	31-Dec-2025	28 days	0 days	✓
SL-SHAL-2C_2025-09-25	011	2386632	E510	25-Sep-2025	30-Dec-2025	28 days	96 days	× EHTR	31-Dec-2025	28 days	0 days	✓
SL-SHAL-2B_2025-09-25	012	2386632	E510	25-Sep-2025	30-Dec-2025	28 days	96 days	× EHTR	31-Dec-2025	28 days	0 days	✓
SL-SHAL-2A_2025-09-25	013	2386632	E510	25-Sep-2025	30-Dec-2025	28 days	96 days	× EHTR	31-Dec-2025	28 days	0 days	✓
SL-SHAL-2E_2025-09-26	014	2386632	E510	26-Sep-2025	30-Dec-2025	28 days	95 days	× EHTR	31-Dec-2025	28 days	0 days	✓

Matrix: Soil/Solid

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

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Metals : Mercury in Soil/Solid by CVAAS												
Glass soil jar/Teflon lined cap												
SL-SHAL-2D_2025-09-26	015	2386632	E510	26-Sep-2025	30-Dec-2025	28 days	95 days	× EHTR	31-Dec-2025	28 days	0 days	✓
Filter Blank	016	2402645	E510	26-Sep-2025	30-Dec-2025	28 days	95 days	× EHTR	31-Dec-2025	28 days	0 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS												
Glass soil jar/Teflon lined cap												
SL-DEEP-IC_2025-09-25	001	2386633	E440	25-Sep-2025	30-Dec-2025	180 days	96 days	✓	30-Dec-2025	180 days	96 days	✓
SL-DEEP-ID_2025-09-25	002	2386633	E440	25-Sep-2025	30-Dec-2025	180 days	96 days	✓	30-Dec-2025	180 days	96 days	✓
SL-DEEP-IA_2025-09-25	003	2386633	E440	25-Sep-2025	30-Dec-2025	180 days	96 days	✓	30-Dec-2025	180 days	96 days	✓
SL-DEEP-IE_2025-09-25	004	2386633	E440	25-Sep-2025	30-Dec-2025	180 days	96 days	✓	30-Dec-2025	180 days	96 days	✓
SL-DEEP-IB_2025-09-25	005	2386633	E440	25-Sep-2025	30-Dec-2025	180 days	96 days	✓	30-Dec-2025	180 days	96 days	✓
SL-SHAL-1D_2025-09-25	006	2386633	E440	25-Sep-2025	30-Dec-2025	180 days	96 days	✓	30-Dec-2025	180 days	96 days	✓
SL-SHAL-1E_2025-09-25	007	2386633	E440	25-Sep-2025	30-Dec-2025	180 days	96 days	✓	30-Dec-2025	180 days	96 days	✓
SL-SHAL-1A_2025-09-25	008	2386633	E440	25-Sep-2025	30-Dec-2025	180 days	96 days	✓	30-Dec-2025	180 days	96 days	✓
SL-SHAL-1B_2025-09-25	009	2386633	E440	25-Sep-2025	30-Dec-2025	180 days	96 days	✓	30-Dec-2025	180 days	96 days	✓
SL-SHAL-IC_2025-09-25	010	2386633	E440	25-Sep-2025	30-Dec-2025	180 days	96 days	✓	30-Dec-2025	180 days	96 days	✓
SL-SHAL-2C_2025-09-25	011	2386633	E440	25-Sep-2025	30-Dec-2025	180 days	96 days	✓	30-Dec-2025	180 days	96 days	✓
SL-SHAL-2B_2025-09-25	012	2386633	E440	25-Sep-2025	30-Dec-2025	180 days	96 days	✓	30-Dec-2025	180 days	96 days	✓
SL-SHAL-2A_2025-09-25	013	2386633	E440	25-Sep-2025	30-Dec-2025	180 days	96 days	✓	30-Dec-2025	180 days	96 days	✓
SL-SHAL-2E_2025-09-26	014	2386633	E440	26-Sep-2025	30-Dec-2025	180 days	95 days	✓	30-Dec-2025	180 days	95 days	✓

Matrix: Soil/Solid

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

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Metals : Metals in Soil/Solid by CRC ICPMS												
Glass soil jar/Teflon lined cap												
SL-SHAL-2D_2025-09-26	015	2386633	E440	26-Sep-2025	30-Dec-2025	180 days	95 days	✓	30-Dec-2025	180 days	95 days	✓
Filter Blank	016	2402644	E440	26-Sep-2025	30-Dec-2025	180 days	95 days	✓	30-Dec-2025	180 days	95 days	✓

Legend & Qualifier Definitions

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: 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)							
Total Organic Carbon by Wet Oxidation and Titration	E357	2383261	1	15	6.7	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2386633	1	17	5.9	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2386632	1	17	5.9	5.0	✓
Laboratory Control Samples (LCS)							
Total Organic Carbon by Wet Oxidation and Titration	E357	2383261	2	15	13.3	10.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2386633	2	17	11.8	10.0	✓
Mercury in Soil/Solid by CVAAS	E510	2386632	2	17	11.8	10.0	✓
Method Blanks (MB)							
Total Organic Carbon by Wet Oxidation and Titration	E357	2383261	1	15	6.7	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2386633	1	17	5.9	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2386632	1	17	5.9	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").

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Digestion for Metals and Mercury	EP440 ALS Environmental - Waterloo	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.
Sample Preparation - TOC by Wet Oxidation and Titration	EP357 ALS Environmental - Waterloo	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	A sample is set in a tray and is dried at less than 60°C until dry (typically overnight). The dried sample is then mechanically disaggregated and passed through a 2 mm sieve. The portion of sample passing 2 mm sieve is used for analysis.
Analytical Methods	**Method / Lab**	**Matrix**	**Method Reference**	**Method Descriptions**
Mercury in Soil/Solid by CVAAS	E510 ALS Environmental - Waterloo	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.
Metals in Soil/Solid by CRC ICPMS	E440 ALS Environmental - Waterloo	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.
Total Organic Carbon by Wet Oxidation and Titration	E357 ALS Environmental - Waterloo	Soil/Solid	CSSS (2008) 21.3.2 (mod)	Total Organic Carbon is determined by wet oxidation digestion using potassium dichromate and sulfuric acid (Walkley-Black). Oxidized organic carbon is determined by back-titration with ferrous ammonium sulfate. Organic matter is estimated from the organic carbon result using the Van Bemmelen factor.

QUALITY CONTROL REPORT

Work Order	: **WT2536082**	Page	: 1 of 10
Client	: Baffinland Iron Mines Corporation	Laboratory	: ALS Environmental - Waterloo
Contact	: Environmental Lab Results	Account Manager	: Rick Hawthorne
Address	: 360 Oakville Place Dr Suite 300 Oakville ON Canada L6H 6K8	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: ----	Telephone	: +1 519 886 6910
Project	: AEMP FALL SEDIMENT	Date Samples Received	: 20-Nov-2025 11:45
PO	: 4500156571	Date Analysis Commenced	: 23-Dec-2025
C-O-C number	: 25 09 26_AEMP FALL SEDIMENT	Issue Date	: 31-Dec-2025 12:18
Sampler	: LG/JM/RR		
Site	: ----		
Quote number	: 2024-2025 Scope of Work		
No. of samples received	: 16		
No. of samples analysed	: 16		

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
- 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*
Greg Pokocky	Manager - Inorganics	Waterloo Inorganics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Waterloo Metals, Waterloo, Ontario
Travis Peel	Laboratory Analyst	Waterloo Centralized Prep, Waterloo, Ontario

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
Metals (QC Lot: 2386632)											
WT2536082-005	SL-DEEP-IB_2025-09-25	Mercury	7439-97-6	E510	0.0050	mg/kg	0.0193	0.0201	0.0008	Diff <2x LOR	----
Metals (QC Lot: 2386633)											
WT2536082-005	SL-DEEP-IB_2025-09-25	Aluminum	7429-90-5	E440	50	mg/kg	27600	28100	1.62%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	0.13	0.13	0.003	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	4.89	4.95	1.12%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	137	143	4.05%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	1.17	1.21	3.12%	30%	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	0.47	0.47	0.003	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	261	307	16.3%	30%	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	0.523	0.540	3.06%	30%	----
		Calcium	7440-70-2	E440	50	mg/kg	9320	9490	1.79%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	103	104	1.38%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	20.5	20.6	0.551%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	45.3	45.0	0.710%	30%	----
		Iron	7439-89-6	E440	50	mg/kg	74100	74100	0.0187%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	23.5	23.2	1.05%	40%	----
		Lithium	7439-93-2	E440	2.0	mg/kg	43.6	44.4	1.95%	30%	----
		Magnesium	7439-95-4	E440	20	mg/kg	21300	21800	2.08%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	1490	1530	3.13%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	3.45	3.62	4.74%	40%	----
		Nickel	7440-02-0	E440	0.50	mg/kg	72.3	73.1	1.09%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	748	743	0.564%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	6950	6930	0.333%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	0.44	0.48	0.04	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	0.19	0.19	0.001	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	395	427	7.62%	40%	----
		Strontium	7440-24-6	E440	0.50	mg/kg	21.2	22.3	5.19%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	0.507	0.496	2.24%	30%	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	2.1	0.07	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*
Metals (QC Lot: 2386633) - continued											
WT2536082-005	SL-DEEP-IB_2025-09-25	Titanium	7440-32-6	E440	1.0	mg/kg	1580	1610	1.84%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	0.64	0.62	0.02	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	7.00	6.92	1.27%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	59.7	60.5	1.25%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	108	113	4.33%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	21.3	22.2	4.14%	30%	----
Aggregate Organics (QC Lot: 2383261)											
WT2536082-001	SL-DEEP-IC_2025-09-25	Carbon, total organic [TOC]	----	E357	0.10	%	1.33	1.41	5.67%	20%	----

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
Metals (QCLot: 2386632)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 2386633)						
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	----
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	----
Uranium	7440-61-1	E440	0.05	mg/kg	<0.050	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2386633) - continued						
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	----
Aggregate Organics (QCLot: 2383261)						
Carbon, total organic [TOC]	----	E357	0.1	%	<0.10	----

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
Metals (QCLot: 2386632)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	104	80.0	120	----
Metals (QCLot: 2386633)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	109	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	107	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	112	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	107	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	104	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	102	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	103	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	105	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	105	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	108	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	104	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	104	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	105	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	105	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	114	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	106	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	104	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	112	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	109	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	105	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	114	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	107	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	108	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	98.2	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	101	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	108	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	106	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	109	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	108	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: 2386633) - continued									
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	102	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	105	80.0	120	----
Aggregate Organics (QCLot: 2383261)									
Carbon, total organic [TOC]	----	E357	0.1	%	42.1 %	118	80.0	120	----

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
Metals (QCLot: 2386632)									
QC-2386632-003	RM	Mercury	7439-97-6	E510	0.068 mg/kg	99.5	70.0	130	----
Metals (QCLot: 2386633)									
QC-2386633-003	RM	Aluminum	7429-90-5	E440	22500 mg/kg	108	70.0	130	----
QC-2386633-003	RM	Antimony	7440-36-0	E440	24.8 mg/kg	97.8	70.0	130	----
QC-2386633-003	RM	Arsenic	7440-38-2	E440	21.2 mg/kg	99.9	70.0	130	----
QC-2386633-003	RM	Barium	7440-39-3	E440	788 mg/kg	98.0	70.0	130	----
QC-2386633-003	RM	Beryllium	7440-41-7	E440	1.82 mg/kg	102	70.0	130	----
QC-2386633-003	RM	Bismuth	7440-69-9	E440	1.78 mg/kg	91.9	70.0	130	----
QC-2386633-003	RM	Cadmium	7440-43-9	E440	2.15 mg/kg	103	70.0	130	----
QC-2386633-003	RM	Calcium	7440-70-2	E440	4900 mg/kg	99.0	70.0	130	----
QC-2386633-003	RM	Chromium	7440-47-3	E440	56.9 mg/kg	101	70.0	130	----
QC-2386633-003	RM	Cobalt	7440-48-4	E440	32 mg/kg	101	70.0	130	----
QC-2386633-003	RM	Copper	7440-50-8	E440	969 mg/kg	101	70.0	130	----
QC-2386633-003	RM	Iron	7439-89-6	E440	32700 mg/kg	105	70.0	130	----
QC-2386633-003	RM	Lead	7439-92-1	E440	919 mg/kg	97.8	70.0	130	----
QC-2386633-003	RM	Lithium	7439-93-2	E440	47.3 mg/kg	105	70.0	130	----
QC-2386633-003	RM	Magnesium	7439-95-4	E440	7780 mg/kg	106	70.0	130	----
QC-2386633-003	RM	Manganese	7439-96-5	E440	8640 mg/kg	104	70.0	130	----
QC-2386633-003	RM	Molybdenum	7439-98-7	E440	25.1 mg/kg	97.7	70.0	130	----
QC-2386633-003	RM	Nickel	7440-02-0	E440	1000 mg/kg	104	70.0	130	----
QC-2386633-003	RM	Phosphorus	7723-14-0	E440	660 mg/kg	102	70.0	130	----
QC-2386633-003	RM	Potassium	7440-09-7	E440	10800 mg/kg	110	70.0	130	----
QC-2386633-003	RM	Selenium	7782-49-2	E440	1.04 mg/kg	98.6	60.0	140	----
QC-2386633-003	RM	Silver	7440-22-4	E440	8.98 mg/kg	94.3	70.0	130	----
QC-2386633-003	RM	Sodium	7440-23-5	E440	1770 mg/kg	114	70.0	130	----
QC-2386633-003	RM	Strontium	7440-24-6	E440	41 mg/kg	102	70.0	130	----
QC-2386633-003	RM	Sulfur	7704-34-9	E440	3940 mg/kg	104	50.0	150	----
QC-2386633-003	RM	Thallium	7440-28-0	E440	0.907 mg/kg	101	70.0	130	----
QC-2386633-003	RM	Tin	7440-31-5	E440	3.79 mg/kg	99.7	40.0	160	----
QC-2386633-003	RM	Titanium	7440-32-6	E440	2790 mg/kg	104	70.0	130	----
QC-2386633-003	RM	Tungsten	7440-33-7	E440	6.99 mg/kg	104	70.0	130	----
QC-2386633-003	RM	Uranium	7440-61-1	E440	3.97 mg/kg	88.7	70.0	130	----
QC-2386633-003	RM	Vanadium	7440-62-2	E440	66.2 mg/kg	101	70.0	130	----

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: 2386633) - continued									
QC-2386633-003	RM	Zinc	7440-66-6	E440	828 mg/kg	98.6	70.0	130	----
QC-2386633-003	RM	Zirconium	7440-67-7	E440	6.91 mg/kg	123	70.0	130	----
Aggregate Organics (QCLot: 2383261)									
QC-2383261-003	RM	Carbon, total organic [TOC]	----	E357	0.386 %	89.8	70.0	130	----

SC7.185

Baffinland

Chain of Custody: 25 09 26_AEMP Fall Sediment

Client Info	Project Info	Laboratory Info	
Baffinland Iron Mine Corporation 2275 Upper Middle Rd E, Suite 300 Oakville, ON, L6H 0C3 **Phone:** 647-253-0596 x6016/6039/4131 **Email:** environment.coordinators@baffinland.com; environment.superintendents@baffinland.com	**Job Reference (Project):** AEMP Fall Sediment **Task:** , AEMP_Sediment_250925 **Site:** MS	**Lab Name:** ALS Waterloo **Contact:** Rick Hawthorne **Phone:** 519.886.6910 **Email:** Rick.Hawthorne@ALSGlobal.com	**Address:** Unit 1 - 60 Northland Road Waterloo, ON,N2V 2B8
Email Invoice: ap@baffinland.com; environment.superintendents@baffinland.com **Email EDD:** bim.equissa@baffinland.com **Email COA:** environment.labresults@baffinland.com	**Turn around Time:** Routine (R) **Sampler 1:** LG **Sampler 2:** JM **Sampler 3:** RR	**ALS Quote #:** WT2020BIMC1000001 **ALS PO #:** 4500156571	

Environmental Division
Waterloo
Work Order Reference
WT2536082

Telephone : +1 519 886 6910

Sample Details				Field Data														
Sample ID (sys_sample_code)	Location (sys_loc_code)	Sample Date and Time	Matrix			Total # of Containers	E137	E440 & E510										
SL-DEEP-1C_2025-09-25	SL-DEEP-1C	9/25/2025 10:30:00 AM	SE			1	X											
SL-DEEP-1C_2025-09-25	SL-DEEP-1C	9/25/2025 10:30:00 AM	SE			1		X										
SL-DEEP-1D_2025-09-25	SL-DEEP-1D	9/25/2025 10:55:00 AM	SE			1	X											
SL-DEEP-1D_2025-09-25	SL-DEEP-1D	9/25/2025 10:55:00 AM	SE			1		X										
SL-DEEP-1A_2025-09-25	SL-DEEP-1A	9/25/2025 11:00:00 AM	SE			1	X											
SL-DEEP-1A_2025-09-25	SL-DEEP-1A	9/25/2025 11:00:00 AM	SE			1		X										
SL-DEEP-1E_2025-09-25	SL-DEEP-1E	9/25/2025 11:10:00 AM	SE			1	X											
SL-DEEP-1E_2025-09-25	SL-DEEP-1E	9/25/2025 11:10:00 AM	SE			1		X										

Baffinland

Sample Details				Field Data		Analysis Requested												
Sample ID (sys_sample_code)	Location (sys_loc_code)	Sample Date and Time	Matrix			Total # of Containers	E137	E440 & E510										
SL-DEEP-1B_2025-09-25	SL-DEEP-1B	9/25/2025 11:15:00 AM	SE			1	X											
SL-DEEP-1B_2025-09-25	SL-DEEP-1B	9/25/2025 11:15:00 AM	SE			1		X										
SL-SHAL-1D_2025-09-25	SL-SHAL-1D	9/25/2025 12:25:00 PM	SE			1	X											
SL-SHAL-1D_2025-09-25	SL-SHAL-1D	9/25/2025 12:25:00 PM	SE			1		X										
SL-SHAL-1E_2025-09-25	SL-SHAL-1E	9/25/2025 12:25:00 PM	SE			1	X											
SL-SHAL-1E_2025-09-25	SL-SHAL-1E	9/25/2025 12:25:00 PM	SE			1		X										
SL-SHAL-1A_2025-09-25	SL-SHAL-1A	9/25/2025 12:30:00 PM	SE			1	X											
SL-SHAL-1A_2025-09-25	SL-SHAL-1A	9/25/2025 12:30:00 PM	SE			1		X										
SL-SHAL-1B_2025-09-25	SL-SHAL-1B	9/25/2025 12:45:00 PM	SE			1	X											
SL-SHAL-1B_2025-09-25	SL-SHAL-1B	9/25/2025 12:45:00 PM	SE			1		X										
SL-SHAL-1C_2025-09-25	SL-SHAL-1C	9/25/2025 12:45:00 PM	SE			1	X											
SL-SHAL-1C_2025-09-25	SL-SHAL-1C	9/25/2025 12:45:00 PM	SE			1		X										
SL-SHAL-2C_2025-09-25	SL-SHAL-2C	9/25/2025 1:20:00 PM	SE			1	X											
SL-SHAL-2C_2025-09-25	SL-SHAL-2C	9/25/2025 1:20:00 PM	SE			1		X										

Baffinland

Sample Details				Field Data			Analysis Requested											
Sample ID (sys_sample_code)	Location (sys_loc_code)	Sample Date and Time	Matrix			Total # of Containers	E137	E440 & E510										
SL-SHAL-2B_2025-09-25	SL-SHAL-2B	9/25/2025 1:45:00 PM	SE			1	X											
SL-SHAL-2B_2025-09-25	SL-SHAL-2B	9/25/2025 1:45:00 PM	SE			1		X										
SL-SHAL-2A_2025-09-25	SL-SHAL-2A	9/25/2025 2:45:00 PM	SE			1	X											
SL-SHAL-2A_2025-09-25	SL-SHAL-2A	9/25/2025 2:45:00 PM	SE			1		X										
SL-SHAL-2E_2025-09-26	SL-SHAL-2E	9/26/2025 3:30:00 PM	SE			1	X											
SL-SHAL-2E_2025-09-26	SL-SHAL-2E	9/26/2025 3:30:00 PM	SE			1		X										
SL-SHAL-2D_2025-09-26	SL-SHAL-2D	9/26/2025 3:40:00 PM	SE			1	X											
SL-SHAL-2D_2025-09-26	SL-SHAL-2D	9/26/2025 3:40:00 PM	SE			1		X										

Relinquished by:	Rachel Noddle	Date:	
Additional Comments			
Initial Shipment Reception (lab use only)		Final Shipment Reception (lab use only)	
Received by:		Received by:	
Date/Time:		Date/Time:	20 NOV 25 11:45

Dry weights and bulk density should be prioritized. Provided there's enough sample, we can analyze filters for metals and TOC If there are any issues with sample masses for particle size/chemistry/bulk density - reach out to BIM before proceeding.